

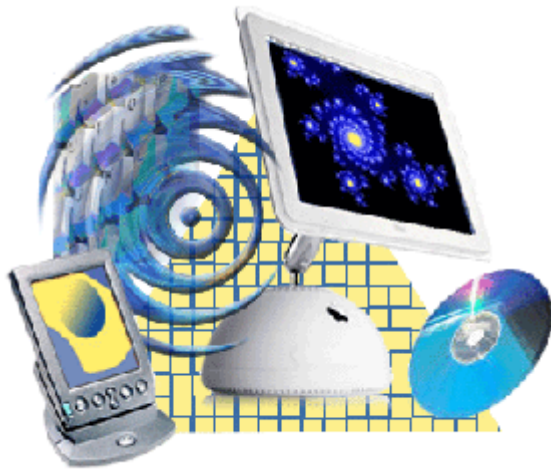
TECHNOLOGY ADVISORY TEAM

LONG RANGE

TECHNOLOGY PLAN

2008-2012

(July 1, 2007 – June 30, 2012)



Investing In The Future



Edina Public Schools
District Media & Technology Services
5701 Normandale Road, Edina, MN 55424
(952) 848-4800 FAX (952) 484-4801

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Idith Almog	School Board Member
Kristy Ardinger.....	Teacher
Mike Burke, Chair.....	Director of Media & Technology Services
Laurie Denn.....	Community Education
John Devine	Principal
Liz Gerich	Special Education
Maria Giampietro.....	Director of Administrative Services
Melody Goldmeyer	Technology Integration Specialist
Scott Johnson.....	Technology Integration Specialist
Barb Kotzer	Technology Integration Specialist
Mark Lawrence.....	Community Member
Jenni Norlin-Weaver.....	Director of Teaching and Learning
Sara Swenson	Media Specialist
Steve Westerlund	Technology Support Specialist

Michael A. Burke, Ph.D.,
Chair, Technology Advisory Team (TAT)
Director of District Media and Technology Services

INTRODUCTION

The needed competencies for the next century have been identified by a number of organizations and research efforts, including the Secretary's Commission on Achieving Necessary Skills, better known as the SCANS Report. In 1992 the U.S. Department of Labor Secretary's Commission on Achieving Necessary Skills published their report entitled Learning a Living, A Blueprint for High Performance. These competencies are relevant for the Edina High School graduate. The SCANS Report described five categories of competencies.

- Planning for the efficient allocation of resources such as time, money, materials, facilities, and Human Resources.
- Acquiring, evaluation, organizing, interpreting, and using competencies to process and communicate information
- Interpersonal skills as reflected in teamwork, servicing clients/customers, negotiating, teaching, leadership, and working with diversity
- Effective use of a variety of technologies; selects technology; applies technology to a task; maintains and troubleshoots equipment
- Understanding how things work together over space and/or time (a process) to function as a system; monitors and corrects performance and improves or designs new or alternative systems

The new commission on the Skills of the American Workforce, a bipartisan assembly of education secretaries and business, government and other educational leaders released a blueprint for rethinking American education from pre-K to 12 and beyond to better prepare students to think in the global economy (Wallis, 2006). The conclusion reached by the educators, and business and policy leaders was that we need to bring what we teach and how we teach into the 21st century. The report stated that while No Child Left Behind emphasizes competency in reading and math, the skill level measures is a "meager minimum." They also stated that scientific and technical skills are critical, but are also insufficiently addressed in the curriculum. The report stated that other 21st century skills that students must demonstrate include:

- Global awareness, sensitivity to foreign cultures and conversant in different languages
- Thinking outside the box, with creative and innovative skills, and the ability to think across disciplines
- Discriminating users of new information resources, ability to distinguish between what's reliable and what isn't
- Development of good people skills and emotional intelligence

Michael Flanagan (Wallis, 2006) states that: "In the 21st century, the ability to be a lifelong learner, for many people will be dependent on their ability to access and benefit from online learning." The result of this philosophy is why Michigan's new high school graduation requirements include completing at least one course online.

Two findings that are very relevant for this Long Range Technology Plan:

- Students need to learn how to leap across disciplines, its interdisciplinary combinations such as design and technology, mathematics and art that produce YouTube and My Space.
- “In this media-drenched era of blogs and podcasts, Google searches and instant messages, young people need to acquire a new set of literacy skills that allows them to locate information, sort through it quickly and most important, determine which sources are reliable and which ones aren’t.”

In a survey of 400 employers across the United States in spring of 2006, the Conference Board, Corporate Voices for Working Families, Partnership for the 21st Century Skills, and the Society of Human Resource Management, found that students today are “woefully ill-prepared” for the demands of today’s and tomorrow’s workplace. In Are They Really Ready to Work, the consortium of the four participating organizations, identified that the skills required of recently hired high school, two-year college students or technical schools, and four year colleges to succeed in the workplace include:

Basic Knowledge/Skills	Applied Skills
English Language (spoken)	Critical Thinking/Problem Solving
Reading Comprehension (in English)	Oral Communications
Writing in English (grammar, spelling, etc.)	Written Communications
Mathematics	Teamwork/Collaboration
Science	Diversity
Government/Economics	Information Technology Application
Humanities/Arts	Leadership
Foreign Languages	Creativity/Innovation
History/Geography	Lifelong Learning/Self Direction
	Professionalism/Work Ethic
	Ethics/Social Responsibility

Respondents to the Are They Really Ready to Work survey, stated that while the “three Rs” are still fundamental to any new workforce, entrant’s ability to do the job, employers emphasize that applied skills like teamwork/collaboration and critical thinking are “very important” to success at work. A combination of basic knowledge and applied skills are perceived to be critical for new entrant’s success in the 21st Century United States workforce, but when basic knowledge and applied skills rankings are combined for each educational level (high school, two-year or four-year college), the top five “most important” applied skills are.

- Professionalism/work ethic
- Teamwork/collaboration
- Oral communication

- Knowledge of foreign language
- Creativity/innovation

21st Century Skills

In research completed by the Metiri Group, a California-based learning and technology consulting firm for the North Central Regional Educational Laboratory (NCREL), entitled enGauge 21st Century Skills; the Metiri Group came to a similar conclusion regarding the skills needed for the 21st century work force. Their review of current research and reviews of current reports on the work force trends from business and industry as well as an analysis of nationally recognized skill sets, input from educators, and reactions from educational organizations resulted in the identification of twelve (12) 21st Century Skills for literacy in a digital age.

Communities, they point out, expect their graduates to be ready to thrive in the digital age, but the 21st Century Skills that such success requires are not well defined. The Metiri Group states that “schools must do more to keep pace with rapid technology, research and societal changes.” To ensure that students will be ready to thrive in today’s knowledge-based global society, three significant things need to occur: (enGauge 21st Century Skills; Literacy in the Digital Age, 2003)

1. The public must acknowledge 21st Century Skills as essential to the education of today’s learner.
2. Schools must embrace new designs for learning based on emerging research about: how people learn, effective use of technology, and 21st Century skills in the context of rigorous academic content.
3. Policy makers must base school accountability on assessments that measure both academic achievement and 21st Century Skills.

The Metiri report states that today’s youngsters use laptops, papers, instant messaging and cell phones to connect to friends, family, experts and other in their community and around the globe. This is a generation that expects to actively participate in and through their media, hence, a decrease in time spent by teens viewing television and the corresponding increase in time spent on computers, gaming and the Internet. The report states, “our children are not looking to or waiting for adults to establish social and cultural norms for using the Internet, they are jumping the fray, exploring the world of chat rooms, aviators, MP3s and digital communication with aplomb.” The question that has to be asked is; “How do we help children use their native intelligence about technology in sophisticated, responsible ways that serve them well as they make their way in the digital age?”

The report states that: “The sheer magnitude of human knowledge, globalization, and the accelerating rate of change due to technology necessitates a shift in our children’s education from plateaus of knowing to continuous cycles of learning. Therefore, policy makers and educators alike must define 21st Century Skills, highlighting the relationship of those skills to conventional academic standards.”

The NCREL and Metiri Group have identified twelve (12) 21st Century Skills which are divided up into four categories.

1. Digital Age Literacy

- Basic, scientific, economic and technological literacy
- Visual and information literacy

- Multicultural literacy and global awareness

2. Inventive Thinking

- Adaptability/managing complexity
- Curiosity, creativity and risk-taking
- Higher-order thinking and sound reasoning

3. Effective Communication

- Teaming, collaboration, and Interpersonal skills
- Personal, social and civic responsibility
- Interactive communication

4. High Productivity and Quality, State-of-the-Art Results

- Ability to prioritize, plan and manage for results
- Effective use of real world tools
- The ability to create relevant, high-quality products.

Experts at the U. S. Department of Labor said it best: “We are living in a new economy, powered by technology, fueled by information, and driven by knowledge. The influence of technology will go beyond new equipment and faster communications as work and skills will be redefined and reorganized.” (U.S. Dept. of Labor, 1999: online, executive summary)

As the district staff review the importance of the twelve (12) 21st Century Skills for the Edina students, they will be hard pressed to identify more than one or two skills that are not affected by students using current technologies.

In Refining Literacy for the 21st Century, David Warlick identifies three requirements for students in the 21st century literacy. (Warlick p100-101)

1. Functional competency in the 21st Century Literacy – the ability to find, access, decode, evaluate, manipulate, employ, and express information both digitally and in print.
2. Acknowledgement of the basic characteristics of our physical, social and cultural environment, both local and global, to a degree that students are able to hold and convey a sense of who, when and where they are in their world, how it impacts on them, and how their activities impact on it.
3. The ability to unlearn, self-teach, and make themselves experts in a variety of fields that the students find professionally and personally meaningful.

Given the realities of globalization, knowledge, work and accelerating societal change, according to the Metiri report, makes it seem very obvious that what students learn, as well as how and when they learn, is changing. They point out that research clearly shows that students learn more when they are engaged in meaningful, relevant and intellectually stimulating work and that technology enables the learner to increase that experience by providing access to outside experts, visual and analyze data, link to real world experiences and take advantage of online opportunities for feedback, reflection and analysis.

Research by the Metiri Group found that technology influences learning in three significant ways: (Metiri p.7)

1. A Driver For Change -That is technology has catapulted society into a knowledge-based global society and that success will require a significantly different set of skills than in the past.
2. A Bridge to Higher Academic Achievement - Technology serves as a bridge to more engaged, relevant, meaningful, and personalized learning – all of which lead to higher academic achievement. Research done by Newmann, Bryh and Nagaoha in 2001 and Weglinsky in 1998, shows that when technology is used appropriately, children learn more, even as measured by conventional tests.
3. A Platform For Informed Decision – Making and Accountability – The report states that technology provides a platform for more informed decision-making, using timely, meaningful data to shape learning opportunities. This translates into more personalized learning, based on continuous feedback available to students, teachers and parents.

The Metiri report concludes that all schools need to formally and systematically use research results to drive system-wide change. To accomplish this, teachers and administrators need to become knowledgeable workers with the 21st Century Skill sets. The implementations for pedagogy, teacher and student roles, curriculum, assessment, infrastructure, and the community are significant. They propose that the 21st Century skills should form the foundation of improvement processes in schools.

Why Edina students need 21st Century Skills

The Edina Public School vision for the future clearly emphasizes the importance of using technology as a tool to address the different learning styles and teaching strategies necessary for our students to develop the 21st Century Skills they will need to be successful in a global society.

The effective use of technology doesn't mean using technology to do the same things faster, more frequently, or cheaper. In order to improve education and prepare our children for the 21st century, the district needs to provide students with extensive access to technology that helps them organize complex information, recognize patterns, draw inferences, and communicate findings. Students preparing for work in the 21st century need access to computer-generated simulations, online classes, DVDs, Internet, CD-ROM programs, blogs, wikis, podcasts, desktop video conferencing, and in the near future, simulation games and virtual reality to develop superior organizational and problem solving skills.

Vision For Technology for 2012 states:

District staff are trained to effectively use technology to motivate and enhance the learning experience of the Edina students. Students use current technology to connect to on-site, community and global resources from anywhere at anytime. In varied and significant ways, technology is revolutionizing learning in the Edina Public Schools. District assessment and data management practices assure that all students successfully meet state and national standards upon graduation.

Students are immersed in real world learning experiences designed to develop in them the 21st Century skills they will need to thrive in an increasingly interdependent and competitive global economy.

Why is technology critical to restructuring?

Nearly twenty years after the federal report, A Nation at Risk was written in 1983, the No child Left Behind Act of 2001 (NCLB) included the recommendation that by 8th grade all students should be technologically literate. NCLB's repeated reference to technology as an important source of support for teaching and learning, reflective of a growing consensus among educators and the public about the importance of technology to communicate, to locate and manage information.

In 2006, the U.S. Department of Education told every state to assess eighth grade students and determine their technology proficiency by the end of the 2006-2007 school year. The new requirements stem from the U.S. Office of Management and Budget's failed effort to review the effectiveness of the federal technology grants because no hard data was available (Wong, 2006). Minnesota, like many other states is planning to model their technology standards after the National Educational Technology Standards (NETS) created by the International Society for Technology in Education (ISTE) (see Appendix B).

Edina Public Schools rank very well when compared against the nation. In their first report, Internet Access in U.S. Public Schools and Classrooms 1994-2001, the National Center for Educational Statistics (2002), a component of the U.S. Education Department's Institute of Education Sciences, found:

- In the fall of 2002, 92% of classrooms in the U.S. Public Schools had access to the Internet. In Edina, 100% of the classrooms and offices have Internet access.
- In 2002, the ratio of students to instructional computers with Internet access was 4.8 to 1. In Edina the ratio is 4.1 to 1 for students to computers.
- In 2002, 86% of schools reported that they had a web site or web page. In Edina, 100% of the schools and departments have their own web pages, as do 95% of the staff.

Marc Prensky, in his book , Don't Bother Me Mom, I'm Learning, 2006, states that students come to school with the attitude of "engage me or enrage me". When students are not in the classroom, the Internet provides a powerful tool that engages them at their ability level, so education must do the same. He goes on to say that kids who can't sit in class for five minutes can be mentally locked-in for hours at home playing video games.

David Warlick states it best: "At the heart of lifelong self-educating people is a literacy that is relevant to the time and the information that surrounds them", (Warlick, 2004, p.10-11). He goes on to say that this means that individuals cannot only read the information given to them by someone, but they have the ability to investigate and expose the truth behind that information. Students are not only able to count, measure, calculate numbers, but can employ the information they have found to solve problems, accomplish goals, and add to their experience. Today's students cannot only write their response, but are able to express their ideas in ways that affect people using images, animation, sound and video."

Over the next five years the Edina Public Schools will continue to work with teaching staff to develop in all students the information literacy and critical thinking skills they will need to be effective and successful consumers of information. Students will need to learn practical and

usable methods for exploring the Internet and making meaningful and accurate judgements about the information they select and use.

DOES TECHNOLOGY MAKE A DIFFERENCE?

Metronet (2003), a library consortium in Minnesota, collected census information on school library media programs in the state. The report stated that library media specialists make a difference. Schools with above average reading scores have school library media specialists that work more hours in their schools. In the 633 Minnesota schools with the above average reading scores on the Minnesota Comprehensive Assessment and Basic Standards test, 423 (66.8%) had a media specialist who worked 36 hours a week or more in the school. The Edina Public Schools library media specialists will need to continue their effort to develop information literacy skills in students over the next five years.

Research done by the International Center for Leadership in Education supports what many of the other researchers have found, that is, that technology has several positive effects on the teaching/learning process:

- Technology in the classroom improves student motivation and attitudes about self and about learning.
- Technology helps a school district to move from a teacher-centered to a student-centered classroom.
- Students who are engaged in their learning are more likely to stay in school.
- Students engaged in application do better and stay in school.
- Contextual learning is retained longer than content memorization.
- Students learn at different rates and in different ways.
- Technology can take the complexity out of the record keeping needed to implement State Graduation Requirements.

Katie McMillan Culp, et al. (2003), in their macro study of educational research on the effectiveness of technology entitled, A Retrospective on Twenty Years of Educational Technology, found strong assertions that technology can stimulate various changes in curriculum content, methods, and overall quality of the teaching and learning process. The change most frequently triggered was one that moves teachers away from lecture-driven instruction and toward a constructivist, inquiry-orientated classroom. The research emphasizes the importance of viewing technology as a classroom tool that must be well matched to specific content and learning goals.

Culp goes on to say that the majority of the reports reviewed provided recommendations on action to be taken by policy makers and other stakeholders of the actions to be taken in order to provide the political support, material conditions and research-based knowledge necessary to establish high quality, technology-rich learning environments in American schools. The recommendations are summarized as follows:

- Improve access, connectivity and requisite infrastructure
- Create more high-quality content and software
- Provide more, sustained high-quality professional development and over all support for teachers, especially those who are innovators

- Increase funding from multiple sources for a range of relevant activities
- Define and promote the role of the various stakeholders, including the public and private sectors
- Increase and diversify research, evaluation and assessment
- Review, revise and update regulations and policy that effect in-school use of technology, particularly regarding privacy and security.

The information and recommendations in this section provide the Edina staff, administration and School Board the direction needed to establish a high quality, technology rich learning environment.

Evaluation

of the
Long Range Technology Plan
2004-2007

Part I – Technology Survey Results

Background

Following the 2004-2005 school year, at the recommendation of the School Board, the Edina Technology Advisory Team decided to develop its own technology survey for staff, students and parents. TAT utilized the enGauge Survey from North Central Regional Education Laboratory (NCREL) for the past four (4) years. The district consistently scored above the state and national database on the enGauge Survey; hence the district felt it was time to develop a survey specific to its technology goals and objectives. During the 2005-2006 school year, the TAT committee worked with the enGauge questions and other national technology surveys to develop questions which would get at both the perceived and actual utilization of technology in the Edina Public Schools to enhance instruction. The survey was designed by DMTS, using the district's online survey development tool. Three surveys were developed; one for staff, students and parents and reviewed by the Director of Research and Evaluation.

Respondent Information

The TAT Technology Survey was completed by a total of 470 parents, 392 educators, and 1,325 4th, 8th and 11th graders.

Survey Completed by	Elementary School	Middle School	High School	Totals
Staff	219	113	60	392
Parents	286	116	68	470
Students in Grades 4, 8 & 11	599	363	363	1,325

This was by far the best response from parents, staff and students that we have had since we began using a survey to measure district use of technology 8 years ago.

Parent Survey Results

Parents believe that technology should play an important role in their child's education and that their children are actively using online resources at home for educational and recreational purposes.

Of the parents responding, 87.98% stated that they have high speed Internet access at home (DSL or cable modem) and 11.59% have dial-up access. Only 2 parents stated they did not have access at home. More than 50% of parents responding stated that their child uses computers at home for:

- personal research on the Internet
- Internet research for homework
- word processing, spreadsheet and/or slide shows for homework
- computer games
- online computer games
- Middle and high school parents also stated that their students used the computer at home to download music, games and video; digital photos/digital video editing and online chats and instant messaging with friends.

TAT felt that it was important in preparing our students for the 21st century, to understand how their parents currently use technology at home and/or at work. More than 50% of the parents responded yes to utilizing technology for the following activities:

- creating word processing documents
- developing spreadsheet, charts and graphs
- creating presentations and slide shows
- accessing databases
- online researches
- online communications
- recreation (games, download music, digital pictures and/or videos)

When asked: *“What was their preferred method of communication with teachers, administrators, and school staff?”* elementary parents answered differently from the middle and high school parents. Elementary parents preferred e-mail (87.72%) as their means of communication with teachers, administrators and school staff. This was followed by face-to-face communication (63.14%). It should be noted that elementary parents do not have access to Edline. Both middle school parents (87.06%) and high school parents (88.06%) preferred e-mail as the main form of communication with teachers, administrators and school staff. This was followed by using Edline; middle school parents (56.48%) and high school parents (52.38%).

When asked: *“In which areas their child felt computers were most often used in the classroom?”* parents stated that their elementary child had mentioned teachers using computers in math, social studies, and English/language arts. Middle school parents stated that their child mentioned using technology in science, social studies and language arts. High school parents surveyed stated science, social studies, and English/language arts classes were areas most frequently mentioned by their child as using technology in the classroom.

Parents overwhelmingly had strong feelings about technology use:

- District-wide, parents felt that desktop computers (82.22%) and printers (74.27%) were the most important technologies for students to have access to in the classroom. Middle school parents (51.72%) would also like to see digital cameras available in the classrooms.
- Parents stated that technology should enhance their child’s learning by providing access to online tutoring (70.50%), online reference materials (87.03%) and electronic textbooks (44.98%).
- Parents also felt it was important for the district to maintain state of the art technology to provide a quality of education for their child. Elementary parents (89.75%) stated it was very important/important. Middle school parents (84.83%) stated it is very important /important and high school parents (92.43%) stated very important/important.

When parents were asked: *“If the district made arrangements for a ‘lease to purchase’ program for a laptop computer under \$600, would you agree to purchase computers?”* for:

- elementary students, 76.04% of parents responding said - no
- middle school students, 60.97% of parents responding said - yes
- high school students, 76.04 of parents responding said – yes

Survey results from the student responses, show students more receptive to having their own laptop. When students were asked *if they thought having their own laptop for use at home and school would help them learn better*, 84.65% of elementary students, 86.15% of middle school students and 77.16% of high school students, said yes they would like their own laptop.

21st Century Skills

The TAT Technology Survey also identifies fourteen (14) 21st Century Skills that will be important in the lives of students in an increasingly technological world. The respondents were asked to select their top three.

District wide the parents felt that the top three 21st Century Skills that will be important in the lives of their students were: *Higher Order Thinking and Sound Reasoning, Curiosity, Creativity and Risk Taking and Personal and Social Responsibility*. Following closely behind were *Adaptability and Managing Complexity and Scientific and Mathematical Literacy*.

When asked what skills their students will need to have for the 21st Century, staff stated: *Higher Order Thinking and Sound Reasoning, Effective Use of Real World Tools, and Information Literacy*. These were followed closely by *Basic Literacy*.

Teacher responses were consistent with last year's enGauge Survey, which included: "Effective Use of Real World Tools" and "Information Literacy" in their top three.

Teacher Survey Results

The goal of the Technology Advisory Committee was to determine how embedded technology is used in the design and implementation of the Edina K-12 curriculum. The TAT committee felt that the nationally designed enGauge Survey was not meeting the district's current evaluation needs, hence, to help evaluate the progress the district has made in accomplishing this goal, a new standard of measurement was developed.

The teacher's survey was designed to evaluate the extent to which the Edina teachers are accomplishing the National Educational Technology Standards (NETS) for Teachers developed by the International Society for Technology in Education (ISTE). A summary of the NETS standards for teachers can be found in Appendix B.

Questions 2-8 of the teacher survey asked staff how often they use technology enhanced instructional strategies to meet diverse student learner needs as well as state standards. The survey questions asked staff how often they collaborate with colleagues to design age appropriate learning opportunities that apply technology enhanced instructional strategies. TAT also wanted to know if teachers used technology resources to collect data, analyze data, interpret results, and report findings to improve instructional practice.

- 2) I design appropriate learning opportunities that apply technology-enhanced instructional strategies to support diverse needs of learners.
- 3) I collaborate with my colleagues to design age appropriate learning opportunities that apply technology-enhanced instructional strategies to support the diverse needs of learners.
- 4) I apply current research on teaching and learning with technology when planning learning experiences for my students.

- 5) I provide technology-enhanced experiences that address content standards and student technology standards.
- 6) I use technology to support learner-centered strategies that address the diverse learning needs of students.
- 7) I use technology resources to collect data, analyze data, interpret results, and report findings to improve instructional practice.
- 8) I use multiple methods of evaluation to determine if students are using the technology resources provided to them in an appropriate manner for student learning, communication and productivity.

Staff responses to questions 2-8 above, indicated that more than 50% of the teachers responding at each level, elementary, middle and high school; utilize technology less than 50% of the time to enhance instruction in order to meet student learning styles and state standards. Half (50.7%) of teachers responding did, however, say they evaluate and reflect on their professional practices to make decisions regarding the use of technology in support of student learning.

The secondary school BATT teams, when asked about barriers to implementing their building technology plan, cited “lack of time”. There are still some secondary staff that have not adopted the new communication technologies and/or refuse to accept the kind of changes and enhancements to curriculum that technology is capable of providing. These same staff do not make themselves available for the technology inservice workshops. These BATT team findings were reinforced by the staff survey results. When staff were asked: *“Has professional development related to technology, changed the way I design my lessons?”*, 50.51% of elementary teachers stated that it did, more than 50% of the time. This is consistent with the fact that elementary staff are more receptive to training and take advantage of inservice offerings more than secondary staff. Only 39.45% of middle school staff and 29.31% of high school staff felt that technology workshops changed the way they designed their lessons.

The survey result suggests that technology is changing the way the staff communicates and manages records and grades. These results were supported by the self-reflection survey completed by the school BATT teams. District staff (74.86%) stated that they use technology to communicate and collaborate with peers, parents and the larger community.

Two other findings indicate a positive growth in how the staff thinks about technology:

- Teachers (65.36%) also stated that they enabled learners with diverse backgrounds, characteristics, and abilities by facilitating equitable access to technology resources for all students.
- 69.47% of district staff responding to the survey stated that their school administrator(s) use(s) and model(s) effective use of technology.

Relevance of Technology in the Classroom

There are also high expectations for the relevant use of technology in the classroom. Teaching staff was asked about the current use of technology in the classroom.

Students in my classroom regularly use technology to perform the following tasks:

	enGauge Edina 2005	TAT Survey Edina 2006
Produce projects of student's own design	68.21%	70.88%
Participate in online projects	25.31%	N/A
Produce work intended for audiences beyond the classroom (for example, for students in other grades or schools or community audiences).	27.78%	N/A
Consult with experts	14.51%	8.24%
Publish their work to the World Wide Web	11.73%	9.89%
Collaborate with community organizations or businesses on class projects	5.25%	3.85%
Consult with students in other schools	6.48%	6.59%
Completes homework assignments	N/A	58.79%
None apply	25.31%	N/A

In the chart above the survey results from this years TAT survey are compared to a set of similar questions on the enGauge survey from last year. Findings indicate that students continue to utilize technology to complete projects of their own design and satisfy curriculum-related assignments. This is consistent with the elementary and middle school student survey results which indicated that students use computers in the classroom at least once per week or more.

One area that TAT needs to address next year in their survey is to determine how and how often students are using online projects to produce work intended for audiences outside the classroom. This would provide TAT valuable information that they will need to determine if the district has achieved their goal of expanding student learning beyond the classroom and school walls.

Classroom and Media Center Use of Technology

Technology can be used to engage and motivate students through access to interesting resources, people, peers, and real-life applications.

In your classroom, how often do students use technology for the following:

In your media center, how often do students use technology for the following:

In your class(es), how often do students use technology for the following?	Never			Rarely			On Occasion (Sometimes)			Frequently			Does Not Apply		
	2005	2006 Class -room	2006 Media Ctr.	2005	2006 Class -room	2006 Media Ctr.	2005	2006 Class -room	2006 Media Ctr.	2005	2006 Class -room	2006 Media Ctr.	2005	2006 Class -room	2006 Media Ctr.
Drill and practice or tutorial (for example, math and reading games)	14	24	28	12	22	19	37	31	31	27	23	22	9	0	0
Integrated Learning Systems (for example, Accelerated Math and Synergistic Labs)	46	61	58	17	17	12	10	11	17	3	10	12	24	0	0
Productivity tools (for example Word, Excel, Access, PowerPoint)	7	20	18	6	12	5	28	25	25	53	43	52	6	0	0
Online communication	33	52	54	26	17	16	21	14	13	8	17	17	11	0	0
Online research	7	21	14	11	14	8	34	32	29	43	33	39	5	0	0
Expression/ visualization (for example, graphing and charting, KidPix, Hyperstudio, PowerPoint)	9	33	26	8	15	13	36	22	26	40	30	35	7	0	0
Simulations (for example, SimCity, Tom Synder Productions, Stella)	48	58	51	21	22	17	12	17	20	3	3	11	17	0	0
Problem solving with real data sets	30	55	48	27	19	13	24	20	28	6	6	11	13	0	0

Survey results from the TAT survey questions related to the use of technology in the classroom and media center were also compared to the results of the 2005 enGauge survey. The three major uses of technology over the last two years continue to be productivity tools. Data collected suggests that online research and use of expression/visualization software. Teachers stated that their students used these functions slightly more in the media center than in the classroom. This result is consistent with the BATT team report from the schools that the use of the computer labs are limited for 4 – 6 weeks for standardized testing preventing their use for class projects.

If the district is to move to the next level of integrating technology into the curriculum, then the two areas which have the most “never” responses will need to be addressed; Simulations and Problem Solving with Real World data sets. Both of these technology uses are critical if the district is serious about developing the “21st Century Skills” ranked by parents and teachers in their top three; “Higher Order Thinking and Sound Reasoning” and the “Effective Use of Real World Tools.”

Student Survey Results

While teachers were uncertain on how often they use technology and how often technology is embedded in the assignments, they felt there was a substantial use of technology in the classroom. The student survey results show that students effectively utilize technology to access information and increase the quality of their work.

While the teacher responses stated that at all grade levels, over 50% of staff use computers less than 50% of the time, student results would argue otherwise:

- 69.82% of elementary students suggested that their teacher uses technology to demonstrate an idea or topic in their classroom everyday or several times per week.
- Middle school students, 74.03%, and 74.58% of high school students, stated their teachers used technology to demonstrate an idea or topic in their classroom.

On the teacher survey, teachers were asked: *“How often they provided technology-enhanced experiences that address content standards and student technology standards?”*, elementary staff, 46.19%, stated that less than 50% of the time they provide technology-enhanced experiences. This was confirmed by elementary students of which 54.64% stated that they use computers and other technology for their homework outside of school, rarely or twice a month. Elementary students (61.72%) also stated that they use computers in their classroom once per week or several times per week. Elementary students were likely to use technology for math, science, social studies, language arts, and reading.

Middle school staff (58.34%) stated they provided technology-enhanced experiences less than 50% of the time. Middle school students, 66.11%, however, stated that they use technology for homework everyday or several times per week. Middle school students, 61.33%, stated that they use computers in their classes once per week or several times. Middle school students were most likely to use technology for math, science, social studies and language arts. Similarly, 59.92% of high school teachers stated they provided technology-enhanced experiences less than 50% of the time. This was confirmed by 61.43% of high school students who stated that they used computers in their classes once per month or rarely. When high school students do use technology it is usually in math, science, social studies, language arts and world language. However, 81.22% of high school students, did say that they use technology for homework everyday or several times per week.

Of students surveyed, 96.82% stated that they had computer access at home. Elementary students (35.58%) stated that they used technology at home everyday to obtain information or for recreation. This compared to a response on the use of technology everyday to obtain

information and for recreation, from 61.16% of the middle school students and 79.22% of high school students. Elementary and middle school students primarily use word processing or PowerPoint software to do their homework assignments. High school students also stated they used spreadsheet software.

The three most popular software programs used in either their classroom or media center were:

- Elementary students: Microsoft Word, PowerPoint and KidPix
- Middle school students: Microsoft Word, PowerPoint, Microsoft Publisher
- High school students: Microsoft Word, PowerPoint and Excel spreadsheet

Teachers stated the availability of technology in their school increased the quality of the student work. Teachers (65.36%) stated that this was true 51-100% of the time. However, teachers responding stated that they were unsure whether or not embedding technology into the curriculum has helped increase performance in their classroom. This raises the question of how accessible are computers to students in the classroom and whether students believe having computers makes a difference. District-wide, 75.65% of students stated that computers were readily accessible at school. Students, 69.89%, also felt that computers make school work more interesting. Students also strongly believed, 64.31%, that using computers at school helped them to do better on their school work.

When asked: *“How many hours per week, on the average, do you spend using a computer in your classroom or media center?”*, there was no significant difference between classroom and media center.

- 85.98% of elementary students stated that they used the computers less than 3 hours in their classroom and 93.6% stated they used it less than 3 hours per week in the media center.
- 86.64% of middle schools stated that they use computers less than 3 hours per week in the classroom and 86.39% stated they used computers less than 3 hours per week in the media center.
- 76.04% of high school students stated that they used computers in their classroom less than 3 hours per week and 81.72% stated they used computers less than 3 hours per week in the media center

One of the major reasons for low usage in the computer lab was clearly identified by school BATT team responses. The schools stated that the use of the computer labs for online testing 4–6 weeks each year is a major deterrent in staff planning their use of the computer lab. Staff find it difficult to complete classroom technology projects for their technology professional growth target.

Staff Development

During August 2005, teachers and support staff attended the Edina Technology Camp for three days with 100 registrants participating in one or more of the 24 sessions that were offered in the Professional Development Center and secondary computer labs. Newly hired teachers in Edina were also offered the opportunity for their own New Teacher Technology Day. New Teacher Technology Day was attended by 52 new teachers who learned the basics of the districts computer network resources, phone system, e-mail, acceptable use and copyright policies. All new teachers were also introduced to the TIES i-Cue attendance and the test assessment database while secondary teachers also received training on Edline. During the school year, 326 participants took advantage of district sponsored full and half-day workshops. These were held in the Professional Development computer lab (348C) or in the computer labs at each school.

Full-day and half-day workshops, which were offered throughout the school year, included:

- Big Six training and district online resources for all staff in September and October.
- Microsoft Publisher training for Grades 4 & 5 staff
- iCue database training for 5 of the elementary schools. Staff learned to enter and retrieve data from the data warehouse for standardized state and local tests
- Elementary electronic report card designed and field tested
- Pod casting
- Windows Media Player for video editing
- Dreamweaver web design training
- Use of United Streaming video clips to enhance curriculum
- LCD projector training for grades 4 & 5 and middle school teachers
- Voice over IP phone training for 2 middle schools and 2 elementary schools
- 34 Edina staff members attended TIES workshops throughout the 2005-2006 school year

In addition, before and after school classes were offered by the Technology Integration Specialists (TISs). Teachers also took advantage of one-on-one mentoring opportunities that allowed teachers to receive training during their prep time or observe the TIS modeling strategies with their students.

The design and implementation of the technology Professional Growth Targets (PGTs) continues to stimulate integration of technology into the curriculum areas. A lot of the Technology Integration Specialist's (TIS) time is spent in helping teachers accomplish these goals with their students. At each of the schools, media specialists and TISs met with teaching staff by grade level to discuss implementation of the Information Literacy Skills Curriculum (Big 6). They mapped skills to grade level and subject level curriculum and helped to facilitate a technology PGT sharing session.

Barriers to Implementing the Long Range Technology Plan

Barriers to the implementation of the Long Range Technology Plan identified by the school BATT communities included the following:

- The number one barrier at both the elementary and secondary level is time. While teachers realize that e-mail is the preferred method of communication with parents, it can be very time consuming, particularly in combination, at the elementary level, with newsletters, web page maintenance and phone calls. Teachers in the elementary schools find themselves repeating much of the same information multiple times in different formats.
- At the secondary level, some staff find themselves overwhelmed by the technology responsibilities – email, Edline, grade books, etc. They find that there is less and less time for interaction with each other. They feel that the personal connections are beginning to erode.
- Because of the “lack of time feeling”, some staff are unable to effectively and efficiently use the new technology tools. There are still teachers that have not adopted the new communication technologies and/or refuse to accept the kinds of changes and enhancement to the curriculum that technology is capable of providing. There appears to be a wide spread complacency among those staff, who may be comfortable with doing things the way they have always done them.
- Barriers mentioned also included the use of the computer labs for testing, thereby preventing classes from doing research for 4-6 weeks each spring while ALT testing is done in the labs. The speed of the 6-7 year old computers is another barrier hindering the use of the computer lab and classroom computers.

In a recent national survey by Agency 128 in St. Cloud, MN of 390 school districts, found that most schools do not believe they are doing well at providing professional development for their teaching staff. Respondents (43%) stated that the biggest barrier was providing professional development, this was followed by 25% who stated funding was the biggest barrier. The findings of this agency confirms what the Edina TAT survey found.

Vision, Mission, Beliefs and Goals

VISION, MISSION, BELIEFS, AND GOALS

Vision For Technology

District staff are trained to effectively use technology to motivate and enhance the learning experience of the Edina students. Students use current technology to connect to on-site, community and global resources from anywhere at anytime. In varied and significant ways, technology is revolutionizing learning in the Edina Public Schools. District assessment and data management practices assure that all students successfully meet state and national standards upon graduation.

Students are immersed in real world learning experiences designed to develop in them the 21st Century skills they will need to thrive in an increasingly interdependent and competitive global economy.

Mission

The district will effectively and efficiently utilize the appropriate technology and instructional resources in order to support the district's educational mission.

"The Mission of Edina Public Schools, working in partnership with the family and the community, is to educate all individuals to be responsible, lifelong learners who possess the skills, knowledge, creativity, self-worth and ethical values necessary to thrive in a rapidly changing, culturally diverse, global society."

We believe:

- Technology facilitates lifelong learning activities for all learners within the Edina community.
- Information Literacy Skills are critical to student success.
- Technology empowers learners and staff to differentiate learning.
- Technology is a tool to be infused in curriculum design and instructional implementation.
- The learning needs of students and the curriculum should drive the use of technology.
- The global information society requires all graduates to effectively use technology to access, evaluate, and utilize onsite, community, and global resources.
- Technology supports ongoing assessment and reporting of student progress.
- Interactive multimedia resources are powerful learning tools that support a variety of teaching/learning styles and strategies.
- Virtual learning technology provides students with a choice of instructional opportunities.

- Distance learning technology expands learning beyond the traditional school building, school day, and school year.
- Technology provides access to information anywhere, anytime.
- Sophisticated voice, video and data information networks enhance communication and make data resources available.
- Successful implementation of the tech plan requires clear, effective and open communication.
- Technology supports the efficient organization and management of district data.
- It is essential for the district to invest in technology and training to support current computer and interactive television technology.
- District will utilize current and future web-based technology to enhance communication between school and home.
- That evaluation and assessment of the Long Range Technology Plan should be done annually.
- The district must provide the resources necessary to support infusion of technology into the curriculum.

Goals for 2008-2012

GOAL 1: INFRASTRUCTURE

To upgrade the district's voice, video and data infrastructure to provide access to information regardless of time, place or circumstance

GOAL 2: TECHNOLOGY RESOURCE

To provide appropriate technology resources throughout the district based on building and district level program needs, student learning and instructional needs.

GOAL 3: Teaching and Learning

To infuse educational technology into student learning activities in all curriculum areas, Early Childhood to grade 12, and to encourage the innovative and creative use of technology by staff and students

GOAL 4: STAFF DEVELOPMENT

To develop and support staff development programs that create a community of learners that competently and effectively use and manage technology resources.

GOAL 5: INFORMATION ACCESS

To enable parents, students, staff and administrators to access, process, manage and communicate information in meaningful ways

GOAL 6: FUNDING

To obtain local, state, federal, and private funding resources for technology initiatives

Overview of Proposed Goals

OVERVIEW OF PROPOSED GOALS

The purpose of this section is to provide an overview of each goal and the philosophy underlying these goals. This plan has evolved from experience, research, and discussions with practitioners and experts. In this section we cite some of the things we've learned during the implementation of the 2003-2008 Technology Plan and the reasons we're recommending this set of goals.

This section does not address the action steps or details associated with individual goals. For that information, refer to the section that follows (entitled "Edina Long Range Technology Plan 2008-2012").

Implicit in its goals and belief statements is a clear commitment by the Edina Public Schools to producing technology-fluent students capable of participating fully in the work world of today and tomorrow. The district's technology vision includes the thorough infusion of technology into instruction and management and providing full access to communications technologies. This includes training teachers and students to fully utilize current research methods with access to all the world's information. Using technology to facilitate communication of all district staff and students will require a thorough and ongoing staff development program. The benefits of technology for Edina Public Schools can be found in Appendix C.

GOAL 1: INFRASTRUCTURE

To upgrade the district's voice, video and data infrastructure to provide access to information regardless of time, place, and circumstance

Access Anytime, Any Place

A key element of this goal is providing access to information regardless of time, place, and circumstance. We've heard this theme again and again from futurists and technology consultants. What this means for Edina is providing physical access to resources after hours, and more importantly, providing web access to the "network" on a 24-hour basis using the Internet. Access to resources for staff and students will no longer be limited to the boundaries of the district or walls of the school or the time of day.

Network Infrastructure Enhancements

To enhance staff and student access, the district will upgrade the LAN/WAN network to provide greater speed and bandwidth for delivering voice, video and data to the desktop in any office, classroom or media center. The LAN will be upgraded to provide 1 GB of bandwidth to each computer lab and 100 Mb to the desktop. Administrators and staff will be given access to servers from home through the creation of a secure VPN for external access.

The district will continue to do site surveys for the strategic placement of wireless hubs throughout the schools. The wireless infrastructure will start at the High School as a result of the 2006-2007 network upgrade, followed by the District Office and middle schools and finishing with the elementary schools.

The "Go Wireless" initiative will provide a one-to-one computer ratio to secondary students. This will require the district to strategically install wireless hubs in each school facility. This wireless initiative will be made possible as part of the district's Voice over IP powered CISCO switches.

The district will work to create a “wired community”, which links schools, Edina businesses and the community with the world. DMTS will use the district’s new IP video system to record, store and distribute curriculum related video to teachers and student desktop or laptop computers. Edina will continue to work with Northern Star Online Academy to provide students the opportunity to participate in classes outside the school day and school building. DMTS will provide the web-based software needed for staff and students to participate in these online classes.

Expanding learning outside the school walls and school day will require access to online interactive software such as Moodle and the hardware and software for staff and students to take advantage of the learning opportunities provided by blogs, wikis, RSS feeds and Podcasts. District access to Internet 2.0 will provide the bandwidth needed to maximize the use of these new web resources.

Technology Support

Along with these resources is the growing need for media and technology support staff to maintain the quality of services and resources the district requires. The District Media and Technology Services department, along with the buildings’ computer paraprofessionals, will continue to provide site-based technical and management software support. DMTS will need to revise and adopt new standards for development and operation of district telecommunication system.

Security Infrastructure

The initial security camera infrastructure put into place during the summer of 2007, will need to be expanded as building and ground areas are identified for monitoring. Access to monitor cameras will be provided to staff identified and district will explore the possibility of providing access via Internet to the police department.

GOAL 2: TECHNOLOGY RESOURCES

To provide appropriate technology resources throughout the district based on building and district level program needs, student learning, and instructional needs.

In order to improve education and prepare children to become life long learners, the district needs to provide students with extensive access to technology that helps them organize complex information, and communicate findings to compete in a global environment.

Classroom Computers

Technology must be infused into the culture of the classroom and the teacher lesson plans, hence, part of the instructional process. Classroom computers will help to demonstrate the relevancy of curriculum by being used to apply learning to real world problem solving activities. As the middle and high schools become wireless, the district is looking into maximizing the use of computers by increasing the number of mobile labs.

Finish Replacement of Staff Computers and Classroom Computers

The district’s Long Range Technology Plan recommends that staff and students have easy access to computer resources. Each school is responsible for determining how they can best use technology to meet their individual school goals and objectives. The student-to-computer ratio at the elementary school that TAT recommends is 4:1, and the strategy for deployment and

use of these computers is the responsibility of the building level BATT teams. However, today the majority of computers in our High School are in computer labs and access is still limited by time and class schedule. TAT believes that there needs to be a one-to-one ratio of student-to-computer at the secondary level. This revised technology plan will deal with the ongoing need to upgrade the computers and technology resources needed to meet curriculum implementation.

In the 2006 Technology Survey of parents, staff and students, when asked if the district made arrangements for a “lease-to-purchase” program for a laptop computer under \$600, 60.97% of middle school parents and 76.04% of high school parents said yes. 86.15% of middle school students and 77.16% of high school students stated they would like to have their own laptop for use at home and school. To address this, during the fall semester of the 2006-2007 school year, DMTS held a one-day technology summit to discuss the future use of technology in the Edina Public Schools. During the Tech Summit, Dr. Scott McCleod discussed how technology continues to infuse and transfuse all aspects of society and as educators we are not grasping the depth of the change that is occurring under our feet. Students preparing for work in the 21st century need access to computer-generated simulations, online classes, blogs, wikis, podcasts, DVDs, Internet, various software programs, desktop video conferencing, portable digital devices, and in the near future, virtual simulations, in order to develop superior organizational and problem solving skills.

Revised 7-12 technology education curriculum will require new computer hardware and software over the next 5 years. The existing student computers will need to be replaced to support new secondary initiatives to address needs of non-AP students. One initiative is the design and implementation of an assistive technology plan for special needs students and for students coming to Edina as part of the state’s desegregation plan. Another initiative is entitled “Go Wireless” and will require every 6-12 grader to have their own laptop computer. The local area network in each secondary school will need to be fitted with state of the art wireless technology.

Computers and Productivity Tools for Teachers and Administrators

The Long Range Technology Plan further recommends a computer be purchased for use by each teacher and administrator to facilitate access to district resources from the classroom, office or home. To date, teachers, support staff, administrators and office support staff have access to computers. By the end of the 2008-2009 school year, all teachers and instructional support staff computers will be replaced with updated multimedia computers. All elementary and secondary full size classrooms will have LCD projectors by the end of 2008-2009 school year. Teacher use of Interwrite pads has been very successful and the district will need to look at funding to expand teacher use.

Recycling Old Technology

The district will continue to review and select technology standards to assure that new technology purchased will effectively and efficiently work on the district’s network.

Currently it is more efficient and economical for DMTS staff to build their own computers to specification rather than purchase commercially.

TAT is working with the BATT committees to ensure the ongoing use of old technology to address specialized functions. The district currently replaces computers on a six to seven year cycle. For example, the existing Reason Seattle I and II model computers can continue to be used as keyboarding, database, and spreadsheet productivity tools as well as provide Internet access. The VE6 and VE8 HP computers are distributed to the “Choice Is Yours” students for home use. Obsolete computers are stripped for parts and sent to a recycler.

GOAL 3: Teaching and Learning

To infuse educational technology into student learning activities in all curriculum areas E-12, and to encourage innovative and creative use of technology by staff and students.

TAT believes that technology needs to be infused into the essence of the curriculum. Many articles have been written that paint the horrors of implementing “technology for technology’s sake.” The experts seem to agree that for technology to be effective in schools, it must be driven by the curriculum instead of driving the curriculum. During the implementation of the first eight years of the technology plan, teachers have been using classroom computers to create learning centers in their classrooms. Computer labs are still the preferred training strategy for students. However, mobile computer labs are slowly becoming a more valuable alternative to the standard computer lab.

Information Literacy Curriculum

Only three States; Minnesota, Mississippi and South Dakota, now lack technology standards for students, according to the Editorial Projects in Education Research Center (EPE). They also found that while 40 States have technology standards for teachers, Minnesota is also not one of them.

Because of the new Minnesota academic standards, the district is reviewing its existing standards and curriculum content. Two questions that teachers need to ask themselves as they design and implement technology enhanced units are: 1) How do you design interdisciplinary curriculum that teaches more than just technology skills and assists students in the application and evaluation of this knowledge in real world situations? 2) How do you infuse technology into the essence of this interdisciplinary curriculum?

The Edina Public Schools library media program must continue to ensure that students are effective users of ideas and information. To maintain this, the library media program must emphasize information literacy instruction, reading advocacy and information management. Planning time will need to be provided to media specialists and teachers so they can plan meaningful information and technology skills integration into the classroom curriculum.

The state is currently examining how Minnesota students will achieve the No Child Left Behind goal that by 8th grade, all students will be technology literate. TAT believes that the Edina students, by 8th grade, should be competent in the National Education Technology Standards (NETS) for students developed by the International Society for Technology In Education (ISTE). (See Appendix B). To begin meeting these NETS standards, district media specialists and Technology Integration Specialists will utilize the district’s Information Literacy Skills curriculum which contained the NETS standards. Media specialists will work with building principals and the BATT team to develop a strategy for achieving the NETS standards at their school and with Teaching and Learning personnel to consider specific curriculum connections.

Media specialists also must continue to serve as reading advocates since reading proficiency is the number one predictor of student success. Michael Eisenberg (2002) states that media specialists must work with teaching staff and the Teaching and Learning Department to provide leadership and expertise in acquiring and evaluating all kinds of information and create strategies for locating, accessing and evaluating information within and beyond the media center.

It is also important that individual teachers and schools don’t “reinvent the wheel.” There are numerous interactive projects on the Internet and within the school district from which our students would benefit. Opportunities for staff training and sharing projects will be needed to

stimulate the use of these resources and to promote the design and development of technology enhanced units at the infusion level.

The district has revised its Assistive Technology Plan and will review the distribution of technology resources and training for the special education staff. The district needs to develop a metric for judging the impact of technology with students and the data should be disaggregated and reported under special needs. Strategies will then be devised to address inequalities.

Infuse the Use of Technology into the E-12 Curriculum

TAT will continue to work with BATT/SIT teams to support the needs of the students through the innovative use of technology in the curriculum.

The infusion of technology into the curriculum will require sustained support of staff on the use of technology in their classroom. The implementation of the district's K-12 Information literacy skills curriculum will provide the foundation for teaching computer and information access skills as part of the E-12 curriculum. The DMTS will need to support curriculum writing teams and building staff in the selection of hardware and software to support curriculum implementation and achievement of the state graduation standards. TISs and TLSs will need to assist teaching staff in designing and implementing their required technology enhanced unit.

Technology and software selected by the district will support an interdisciplinary approach to teaching and learning that will allow students to put theory into practice. Streaming video, CD-ROM, DVD, Internet, ITV and database tools used to gather information for individual or class projects is an important skill that teachers must learn to instill in their students.

Ethical Use of the Internet and Online Resources

Another aspect of integrating technology into curriculum is making sure that students and staff are using technology responsibly and ethically. The School Board has approved an Acceptable Use Policy, Copyright Policy, E-mail Policy and the Web Policy. TAT will review and modify these policies and procedures as needed. As the district moves forward in implementing Intranet and Extranet systems, more guidelines will be established. The Web Advisory Committee (WAC) will continue to oversee the development and use of the district's Internet and Intranet.

In addition, each student will receive training on web etiquette as part of their information literacy skills curriculum. The district needs to develop more instruction on "critical thinking skills" since information on the web is often not edited and in many cases is incorrect. Hence the implementation of the Information Literacy skills curriculum is critical.

Virtual Learning Opportunities

The use of distance learning opportunities has gained momentum in the district's schools. DMTS staff will provide site-based training for all staff interested in using interactive television programming. The district also needs to expand its MovieMaker training for teaching staff so their students will be able to create related video programs.

The district will continue its active role on the Northern Star Online (NSO) steering committee and provide input for the development and approval of online courses. The Director of District Media and Technology Services will work with the Director of Teaching and Learning to assist Edina students and parents who want to expand their learning options to online instruction. This will include working with middle school students wanting to take a high school course or transfer

students needing to pick-up classes missed or high school students wanting more flexibility in their school day. It will be important for the secondary administrators and guidance counselors to understand the new opportunities and choices NSO can provide for our students.

Technology Integration Specialists (TIS) will work with secondary staff to expand their subject area discussions beyond the classroom/school walls and school day. TISs will provide workshops on how to use Moodle, an online discussion-board service, to enhance student interaction and resource sharing.

The use of our interactive video conference system (eTV) to share resources between schools and take advantage of electronic field trips from around the world will be very important over the next 5 years. The Technology Integration Specialists and media specialists will work with staff who have successfully obtained their Edina/Hamline tech certificate, to identify field trips their school can schedule during the school year, which support instruction. The district will use their Internet 2 connection to the State network to provide programming.

GOAL 4: STAFF DEVELOPMENT

To develop and support staff development programs that create a community of learners that competently and effectively use, manage and integrate technology resources.

The number one barrier to the implementation of technology in the classroom is time. Agency 128's research findings in 2006 support this statement. Their survey of 390 educators nationwide found that most schools do not believe they are doing well at providing professional development for their teaching staff and stated time was their biggest barrier to providing professional development. The district's TAT survey results from the 392 teaching staff who responded showed that neither elementary staff nor secondary staff felt that technology workshops changed the way they designed their lessons the majority of the time. The staff believes that they do not have the time needed to modify their lessons and integrate technology into their classroom.

This goal goes hand-in-hand with Goal 3 (Teaching and Learning). The district must provide staff with both resources and instruction that will enable them to go to the level of technology referred to as **technology infusion**. There is a need to differentiate the staff development through training videos (VOD) in VBrick and one-to-one instruction. Teachers need to model, apply, and infuse technology into the curriculum content at every level. During the 2001-2002 school year, the School Board approved, in their Strategic Plan, that each teacher will establish and implement a Technology Professional Growth Target. This Board action has helped to escalate the use of technology in the classrooms. The challenge inherent in this initiative is providing the time and support that teachers will need to infuse technology use in their classroom. In order to accomplish this, the district needs to continue to provide funding for a minimum of one day of technology training, each school year for all licensed staff and paras who work with students.

The Building-level 2006 Technology Survey results indicated that the requirement of individual or team technology Professional Growth Targets (PGT) helped teachers to develop innovative ways to utilize and maximize technology in their classrooms. To ensure the effective use of technology by classroom teachers, it requires training and the identification of best practices for using technology with students. Funding must be provided for each teacher to receive 2 half-days of training based on the school's site based technology initiatives and/or their technology Professional Growth Targets. During district and site based inservice opportunities, Technology Integration Specialists will work with staff to develop and implement the teachers' technology enhanced PGTs.

Technology Competencies of Staff

Many articles in the literature document point to the problems that occur when teachers are expected to alter their use of technology, but aren't given the resources or training to do it.

Teachers and staff who are not technologically fluent are unable to fully utilize technology as a powerful instructional tool or instruct students in its usage and mastery. Through implementation of a comprehensive program of staff development, all district personnel will master basic technology competencies and then be able to move to more advanced applications. They will integrate technology into instruction of content objectives and process skills, weaving the use of technology throughout the curriculum, across grade levels and using technology to demonstrate/model the application of this subject content knowledge. Staff (Digital Immigrants) need to be competent in their technology skills, so that they use Best Practices to embed technology into all curriculum areas for their students (Digital Natives).

The 2006 TAT Technology Survey asked teachers if they were practicing the National Educational Technology Standards for Teachers, developed by the International Society for Technology in Education (ISTE). The results showed that over 50% of the teachers applied the standards less than 50% of the time when designing their classroom lessons. The Technology Integration Specialists will continue designing workshops and work with classroom teachers to make them aware of the NETS standards for teachers. NETS standards will be incorporated in all technology workshops and technology PGT development. The standards require teachers to:

- Demonstrate a sound understanding of technology operations and concepts.
- Plan and design effective learning environments and experiences supported by technology.
- Implement curriculum plans that include methods and strategies for applying technology to maximize student learning.
- Apply technology to facilitate a variety of effective assessment and evaluation strategies.
- Use technology to enhance their productivity and professional practice.
- Understand the social, ethical, legal, and human issues surrounding the use of technology in PK-12 schools and apply that understanding to practice.
- Add information on new staff training and skills.
- Administrative support of training and technology PGT training

To help staff achieve these standards, DMTS will:

- Provide staff access to current and new technology, software and telecommunication networks for classroom and professional use, including access beyond the school day. (Read-Write Web, Internet 2)
- Provide continuous access to a variety of professional development opportunities to meet staff individual needs.
- Technology Integration Specialists will provide technical assistance for staff which is timely, on site and includes mentoring to enhance skills in managing classroom software and hardware resources.
- Support the classroom teacher in the assessment of learning outcomes for technology-supported activities to assure successful planning and design.

The technology inventory results also clearly point out that teachers need to be updated on the ethical issues of using the Internet and computer technology. Teachers need to understand the district's Acceptable Use Policy, Web Policy, E-mail policy and the Copyright law so they can properly model technology use for their students.

This technology plan requires staff to utilize teaching strategies that incorporate the well-researched methods of interdisciplinary instruction, collaboration, and constructivism. It is

critical that the district continue to provide staff development time needed for building-level staff to meet with the media specialist to plan the implementation of the information literacy skills their students will need.

Staff Development Opportunities

Staff development training provided by the district should emphasize integration and infusion of technology into the curriculum. The staff needs to learn teaching strategies and see models that demonstrate enhanced instruction using technology as a tool, where appropriate. Basic technology skills will be learned through “just-in-time” face-to-face training and online courses. Besides training for the certified staff, there is also a great need for training for special education paras, early childhood staff, the Family Center staff and substitute teachers.

Technology Integration Specialists will work with media specialists and the TOSAs to provide integrating technology training within the content areas. Technology staff development goals should continue to address teacher and administrator technology proficiency so that the district’s standardized test scores exceed that of the state and nation. The Teaching and Learning department, along with the TOSAs, should look for software and hardware that will increase student learning. Administrators should design a professional growth target to meet or exceed the National Educational Technology Standards (NETS) for administrators. The implementation of the technology Professional Growth Target should be linked to their job responsibilities. DMTS will support the accomplishment of these PGTs by offering technology workshops in conjunction with regularly scheduled leadership meetings. The NETS standards for teachers and administrators can be found in Appendix B.

Each teacher will receive two half-days of training based on the PGTs for technology that were established during the Big 6/Technology Integrations days. During these in-service opportunities, Technology Integration Specialists will work with staff to develop and implement the technology enhanced PGTs. Every staff member will also have the ability to attend half-day technology workshops, specific to their instruction or data management need. Training will also be provided for instructional assistants (paras) who work with students on curriculum related software, productivity software and research databases. Special education staff and paras are provided training through the Special Education Department. Because of the nature of their jobs and lack of subs, training for special education staff should take place after the school day.

New certified staff is invited to attend a full day workshop, “New Teachers and Technology”, in August of each year. This optional day includes some of the basics of logins, Board policies, email, file management, video curriculum subscriptions, V Brick, Edline, Grade Quick and district software. This should be open to all certified staff and from the Family Center also.

New teachers are involved with monthly LINKS classes where technology is embedded. Technology tips are shared each month, along with a student case study that is presented in PowerPoint. During the year 2006-2007, all of the new teachers are using Moodle (chat room and drop box), district will need to expand this resource for all staff over the next two years.

Because of the classroom projectors and the new technology that is in the classrooms in grades 2-12, substitute teachers need a district log-in and instruction on how to use the projector and access videos and teaching software. Two-hour training sessions have been offered this year (2006-2007) and will need to continue into the future.

As the curriculum changes and the ‘No Child Left Behind’ law begins to define school success, teachers will find it necessary to use alternative forms of assessment to capture the full extent of a student’s performance and progress in meeting the new state standards. Also, teachers are faced with assessing technology-based student products, for which they will need to develop rubrics that capture the multiple dimensions of technology-based products.

During year two and three of the curriculum development cycle, the district's curriculum committee reviews and revises their subject area curriculum, selects software and identifies how technology can best support the implementation of that curriculum. The district needs to provide funding to support the design of technology enhanced curriculum units and the training of staff to implement those units in classrooms district-wide. The Technology Integration Specialists should continue to play a key role in assisting staff with the implementation of the technology units and the action research associated with units, especially working with the subject area TOSAs and the curriculum committee. The subject-area TOSAs need to promote the infusion of technology into their curriculum area and work with the TISs to select appropriate technology.

The requirement of the technology PGT for teachers has been the single greatest factor in stimulating the use of technology in the classroom. The principal, or his/her designee, will monitor and review the implementation of technology PGTs. The Technology Integration Specialist will help to support teachers in the implementation of their technology PGT. Media specialists, TISs and TLSs will work with staff to infuse technology into the curriculum as well as select and/or develop streaming video in-service programs to provide "just-in-time" training for hardware and software.

GOAL 5: INFORMATION ACCESS

To enable parents, students, staff, and administrators to access, process, manage, and communicate information in meaningful ways

At all levels within the district, there is a widespread realization of the tremendous importance of student information to support district and school operations, facilitate instructional delivery, leverage appropriate funding levels, and support management decision-making requirements. The need for comprehensive, accurate, and readily accessible staff and student information is ever present.

Internet Safety

The greatest potential for staff and student sharing and use of information is provided through the Internet. The Internet, as it continues to evolve, will expand the learning opportunities and teaching resources beyond the boundaries of Edina. The intranet created by the district enhances the ability of district staff to share and maximize the use of district data, business and student management resources.

However, as the Internet continues to evolve and expand to provide a greater resource for our students so is the risk of students accessing inappropriate web sites. Students must learn how to use the Internet safely and effectively. Students need to understand that predators are always present on the Internet and not to give out personal information. They should also learn to recognize the various forms of cyber bullying and know what steps to take if they are confronted with that behavior. Students and their families should discuss how to identify acceptable sites to visit and what to do if an inappropriate site is accessed. Likewise, students and families should discuss acceptable social networking and communication methods and the appropriate steps to take when encountering a problem. The district needs to become proactive in opening this communication among the stakeholders. This home-school communication and monitoring is imperative for the effectiveness of this safety and security policy. Edina students should learn about the Internet safety from kindergarten through high school graduation, acquiring new skills each year. All instructors, not just library media specialists or

computer paraprofessionals, should be responsible for teaching Internet safety and model appropriate use.

The Edina Public Schools will continue to take a proactive role to comply with the Children's Internet Protection Act (CIPA) by maintaining an up-to-date firewall with proxy server and spam filter. Software is used to block student and staff access to inappropriate sites and is monitored by the network manager. The School Board has approved an Acceptable Use Policy which includes the district's Internet Safety Policy required by CIPA which protects minors from pornography and other activities that could harm students. In addition, the district has a recently approved e-mail policy and a revised Web Access Policy which addresses these same CIPA concerns.

Information Management and Productivity Tools

Emphasis on the role and accountability of district level and building administrators means that management information systems must be designed and implemented to deliver the highest possible quality of information and service. District and building level staff and administrators must be provided the capability to:

- Access and use productivity tools and capabilities supporting the analysis of information and effective decisions regarding the deployment or expenditure of site resources to best accomplish performance objectives.
- The district must effectively use the TIES Student Information System (TSIS) software or another third-party software to provide direct, high quality information and support to district and school administrative staff.
- The TSIS and TIES Finance software must support the diverse accountability and reporting requirements of the state, other external agencies, the Board, and the community.
- I-Cue, I-Plan, Adminview, Quickview and Myview will provide an Internet connection to the TSIS database.

Dr. Thel Kocher, Director of Research and Evaluation, will work with each of the school improvement teams to interpret assessment data as they develop their performance targets during the school improvement process. The district will develop and implement electronic cumulative student folders to compliment the district's electronic elementary report card. The electronic cumulative folder will contain assessment data required by the 'No Child Left Behind' law and district school improvement plans.

DMTS will work with the Teaching and Learning TOSAs and the Director of Research and Evaluation to maintain and develop the districts data warehouse at TIES. Data mining software, available through TIES, will allow district administrators and curriculum committees to modify district curriculum to better meet the learning needs of our students. Training opportunities will be provided to E-12 staff and how to access their students assessment data, using iCue (teachers) and Adminview (administrators). Staff will receive training on how to interpret the state and local standardized test results and utilize this information to appropriately modify their classroom curriculum.

The district will review the utilization of Gradequick and Edline for recording and reporting secondary student grades to determine if these web-based resources will meet future district needs for recording, reporting and monitoring student achievement. The district should work toward the recreation of a single E-12 software tool for recording, monitoring and reporting student grades. This should include a parent, student and staff web portal to access student progress at anytime, from any location.

Edina Public Schools will work with TIES to review with middle and high school administrators and counselors, the benefit of online student registration from home. The district would begin online registration beginning at the middle school in February 2008.

The district requires every teacher to have a web presence. Training is provided for staff to develop their own web pages using Urban Planet to enhance communication between home and school. We will also offer training each summer and during the first quarter of the school year, for new and returning secondary teachers on how to use Edline as a communication tool. Edline will be used by secondary teachers to communicate grades, assignments, calendar information and resources for student use. The Internet is the principle means of communication between the major stakeholders in the district; the district will work to ensure that its web site is ADA compliant.

Over the next four (4) years, the district needs to better understand the potential of and utilize the "social networking" capability of the Internet to enhance student access to current resources and learning opportunities. Teaching staff need to be trained in the latest web tools to provide students information in the formats that they are most comfortable with in communicating and obtaining their information, this includes resources such as: blogs, wikis, RSS feeds and Podcasts.

The ultimate goal is for the district to enhance communication to all of its stakeholders and become a paperless organization eliminating 80% of its paper records. This effort will require the district to make better use of the intranet and create web forms to allow parents and staff to complete and transmit forms via the Internet. The transition of the district web site from DreamWeaver to Urban Planet will provide district staff with the opportunity to develop more interactive web pages for their classroom.

Expanding Access to Information Resources

The district must assure that staff and students have timely access to appropriate curriculum related online databases and software.

DMTS will work with Hennepin County Library to maximize the use of their online resources. The district will purchase those resources needed to compliment the Hennepin County Library collection and assure students access. Media staff will work with students to utilize educational friendly search engines such as Vivisimo, Kids Click, etc. Library media specialists will work with students in the development of the National Educational Technology Standards and assure they will have the digital literacy needed to be successful in the 21st century.

GOAL 6: FUNDING

To obtain local, state, federal, and private funding resources for technology initiatives

District support for school technology planning and management is paramount. Implicit in the success of the Edina Long Range Technology Plan is the acknowledgment and acceptance of the roles, responsibilities, and expectations of all stakeholders: Board of Education, administrators, teachers, support staff, students, parents, community, and business members. With the cooperation and participation of all, technology will become an integral part of each and every student's education in the Edina Public Schools.

Funding Plan

Funding for this plan will need to come from a variety of different resources. The Technology Budget Oversight Committee is responsible for recommending the technology levy budget each year to the School Board and overseeing the district and school expenditures. The committee consists of two representatives (parents), one School Board member, the Director of Business Services, the Controller, the Assistant Superintendent of Educational Services, and the Director of District Media and Technology Services. The funding package will need to take into consideration funding for ongoing management, repair, distribution, maintenance and upgrading technology in this plan thus effectively utilizing the technology levy funds. Maintaining the three Technology Integration Specialists for the duration of this plan will be critical to the success of the staff development goals.

As a part of this plan, TAT has developed guidelines for the distribution of technology funds for administration and School Board approval.

Other Grant and Funding Sources

TAT realizes the community of Edina will not be able to shoulder the burden of all the technology needed currently and in the future. That is why it is important for the district and individual schools to seek out, identify, and obtain appropriate grant and funding resources. The district must take advantage of funding initiatives from the State of Minnesota, as well as national programs such as the e-rate initiative which helps to pay for a portion of the cost of the telecommunications network operation and ESEA Title IID, which helps pay for staff development of online grading.

For the past nine years the district has successfully obtained a 40% e-rate reimbursement on all of its telecommunication costs. The district will need to continue its efforts to obtain e-rate reimbursement funding from the federal government. In addition, the federal government, as part of their 'No Child Left Behind' act, has provided funding under ESEA Title II-D for technology inservice training. The district will apply each year for both the entitlement funds and discretionary funds of Title II-D.

The continued effort of the Edina Education Fund and the school parent/teacher organizations to assist in obtaining technology funding is extremely important. The director of District Media and Technology will need to work with the Edina Education Foundation to obtain funding and community support for the "Go Wireless" program to get a laptop for every 6-12 grader.

The Edina Public Schools participate in the Minnesota Department of Education Telecommunication/Internet Access Equity Aid program. The district could receive up to \$51,928. for 2007, depending on state allocations.

During the 2008-2009 school year, it is recommended that the TBOC committee work with TAT to study the different funding options that exist to support the "Go Wireless" one-to-one computer program and review the different options for financing the program.

Long Range Technology Plan

2008-2012

Goals & Objectives

EDINA LONG RANGE TECHNOLOGY PLAN 2008-2012

GOAL 1 Infrastructure	To upgrade the district's voice, video and data infrastructure to provide access to information regardless of time, place and circumstance.			
Objectives	Action Step	Timeline and Resources	Success Indicators	Responsibility
1.1 Upgrade LAN/WAN network to provide greater speed and bandwidth for delivering voice, video and data to the desktop in any office, classroom or media center.	<p>1.1.a Place wireless hubs in each school to facilitate wireless computer and phone service using IP protocol.</p> <p>1.1.b Increase server redundancy</p> <p>1.1.c Continuously review space needed for electrical power/cabling of district sites as they relate to use of technology.</p> <p>1.1.d Upgrade current switches to quality of service QOS switches.</p> <p>1.1.e Utilize connectivity to Richfield and Bloomington fiber networks to share resources and provide redundant Internet cooperative.</p> <p>1.1.f Expand the district security camera infrastructure as needs are identified.</p> <p>1.1.g Upgrade network to utilize Smart Security ID cards for staff and students.</p> <p>1.1.h Upgrade LAN to provide 1 GB to each computer lab and 100 MB to desktop.</p>	<p>2007-2010 Upgrade LAN to provide 1 GB to each computer lab and 100MB to desktops.</p> <p>2008-2009</p> <ul style="list-style-type: none"> - Complete placement of wireless hubs in each of the schools. - Expand security camera coverage. <p>2008-2009 Converged network completed.</p> <p>2010-2011 Evaluate effectiveness of security camera and door access security.</p>	<p>System capable of delivering 100 Mbps to the desktop and 1Gb to each computer lab.</p> <p>Wireless infrastructure supplements the district copper/fiber network</p>	DMTS

EDINA LONG RANGE TECHNOLOGY PLAN 2008-2012

GOAL 1 Infrastructure	To upgrade the district's voice, video and data infrastructure to provide access to information regardless of time, place and circumstance.			
Objectives	Action Step	Timeline and Resources	Success Indicators	Responsibility

<p>1.2 Create a “wired” community which links schools, Edina businesses and the community with the world.</p>	<p>1.2.a Create capacity for district’s new IP video distribution system to download videos onto student desktop or laptop computers.</p> <p>1.2.b Provide VPN access for all staff to district databases.</p> <p>1.2.c Increase use of interactive video system to access high interest, low enrollment classes from other educational institutions throughout North America.</p> <p>1.2.d Provide resources to develop web-based district sponsored courses and enrichment resources to Edina community and businesses.</p> <p>1.2.e Work with City of Edina on city WiFi access to every home.</p> <p>1.2.f Provide students access to their district network files via a 3rd party resource.</p>	<p>2007-2009</p> <ul style="list-style-type: none"> – Increase capacity of districts IP video distribution system. – Work with curriculum committees to identify interactive video programs. – Staff and students have access to their files and folders from home. <p>2008-2010 Work with City of Edina on WiFi network.</p>	<p>Students and community members are able to take Edina Community Education course or district class from home.</p> <p>Grade 7-12 students statewide take online courses from the Northern Star Online Academy (NSO)</p> <p>District/City WiFi connection completed.</p>	<p>Edina Schools</p> <p>Edina Community</p> <p>Education</p> <p>ISD 287 (NSO)</p> <p>DMTS</p>
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EDINA LONG RANGE TECHNOLOGY PLAN 2008-2012

Objectives	Action Step	Timeline and Resources	Success Indicators	Responsibility
1.3 Revise and adopt new standards for development and operation of district telecommunication system.	<p>1.3.a Adopt common industry-standards and life cycles for technology hardware and software</p> <p>1.3.b Set standards for technology access at school for hardware, software and the Internet.</p> <p>1.3.c Set standards/recommendations for technology at home</p> <p>1.3.d Adopt the SCORM standards and specifications to allow for interoperability, accessibility and reusability of digital learning materials.</p> <p>1.3.e Adopt the SIF (School Interoperability Framework) software standards for educational software used district-wide.</p>	<p>2009-2010 SIF and SCORM standards are adopted and implemented.</p> <p>2007-2012 Review industry standards and make adjustments as needed.</p>	Edina Public Schools' technology infrastructure conforms with industry standards.	DMTS Maintenance Services Business Dept.

EDINA LONG RANGE TECHNOLOGY 2008 - 2012

Objectives	Action Step	Timeline and Resources	Success Indicators	Responsibility
1.4 Tech support is adequate for the technology needs of the educators, students and administrators.	<p>1.4.a Provide technology training that is timely on the installation and maintenance of new hardware and software for the computer lab paraprofessionals.</p> <p>1.4.b Coordinate and integrate technical support infrastructure such as training and helpdesk.</p> <p>1.4.c Monthly training for computer paraprofessionals on how to repair and current maintenance issues.</p> <p>1.4.d Create a support pool consisting of students to assist district with technology. Review potential of Generation Yes model.</p> <p>1.4.e Select new software tools to maximize maintenance, monitor and support the district's technology infrastructure.</p>	<p>2007-2008 Review need for extended hours for DMTS tech support and obtaining funding.</p> <p>2008-2010 Offer high school and middle school students the opportunity to provide computer support as part of their community service.</p> <p>2008-2012 Ongoing training for computer lab paraprofessionals.</p> <p>2008-2009 Select new repair monitoring/reporting software</p>	<p>School media center staff provide Level 1 technical support</p> <p>Tech support is adequate for the technology needs of the educators, students and administrators. assure hardware repairs are done within 72 hours.</p>	DMTS Media Center Staff and Computer Paraprofessionals

1.5 Develop file management and archival system	<p>1.5.a Data archiving committee selects order of departments to begin electronic archiving and management conversion with TIES.</p> <p>1.5b. Administrative support staff are training to electronically archive data files and hard copy records.</p> <p>1.5.c Eliminate 80% of intra-district paper records, files, etc.</p>	<p>2008-2010</p> <ul style="list-style-type: none"> – Begin converting District Office department files to electronic archival and management system. – Schools will make use of paper tracking software to help cut down on extraneous printing by staff and students. <p>2009-2011 All District Office and guidance records files are converted to electronic storage facility.</p> <p>2010-2012 Eliminate 80% of in-district paper records, forms and files.</p>	District records are electronically stored and secured.	TIES DMTS
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EDINA LONG RANGE TECHNOLOGY PLAN 2008-2012

GOAL 2 Technology Resources	To provide appropriate technology resources throughout the district based on building and district level program needs and student learning and instructional needs.			
Objectives	Action Step	Timeline and Resources	Success Indicators	Responsibility

<p>2.1 Ensure equitable access to technology resources.</p>	<p>2.1.a Oversee and evaluate district technology utilization by TAT each Spring in cooperation with the BATT/SIT Teams.</p> <p>2.1.b Manage the distribution and utilization of building level technology resources by media specialists and School Improvement Team/BATT.</p> <p>2.1.c Work with ELL and Special Education staff to select appropriate resources for students.</p> <p>2.1.d Begin replacing teacher desktop computers with laptop computers to provide them access to resources from the classroom, office or home.</p>	<p>2008-2010 Monitor technology utilization by Special Education and ELL staff.</p> <p>2008-2012</p> <ul style="list-style-type: none"> – Tech implementation evaluation provided to School Board each summer. – Phase-in laptop computer program for teaching staff. 	<ul style="list-style-type: none"> – Yearly report shows equitable and appropriate distribution of resources. – One-to-one teacher laptop computer initiative is completed. 	<p>TAT BATT/School Improvement Team (SIT) Director of Special Education Services Department</p>
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EDINA LONG RANGE TECHNOLOGY 2008 - 2012

Objectives	Action Step	Timeline and Resources	Success Indicators	Responsibility
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<p>2.2. All staff and learners have access to appropriate technologies through the district's telecommunication infrastructure.</p>	<p>2.2a Provide wireless computer access to the district's network for all staff.</p> <p>2.2.b Provide secondary students access to the district's wireless network.</p> <p>2.2.c Work with Edina Education Fund to design a program where every 6-12th grader has a laptop computer for their use. This 1-to-1 laptop computer initiative will be referred to as the "Go Wireless" initiative.</p> <p>2.2.d Review and plan for upgrade of media center technology to address changing needs of staff and students.</p> <p>2.2.e Replace elementary student classroom computers and increase the number of mobile labs. Establish a 4:1 ratio of students to computers.</p> <p>2.2.f Identify and meet all future assistive technology needs in the district.</p> <p>2.2.g Replace computer furniture and redesign computer work areas in primary classrooms.</p>	<p>2008-2010</p> <ul style="list-style-type: none"> - Pilot one-to-one student laptop use at middle schools. - Implement revised Assistive Technology Plan. - Review and replace current media center technology with updated information access tools. - Determine process for implementation of "Go Wireless" initiatives. <p>2009-2011</p> <ul style="list-style-type: none"> - Begin implementation for grades 9-12. - Complete computer upgrades for all elementary classrooms at a 4:1 ratio. - Secondary staff get laptops. <p>2010-2012</p> <ul style="list-style-type: none"> - Implementation of "Go Wireless" initiative for grades 6-8. - Complete upgrading of mobile computer labs - Increase number of labs in the elementary schools. 	<p>Assistive Technology Plan has been implemented</p> <p>District one-to-one computer initiative "Go Wireless" has been implemented.</p> <p>Elementary classroom computer replaced.</p>	<p>DMTS BATT SIT Edina Education Fund</p>
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EDINA LONG RANGE TECHNOLOGY PLAN 2008-2012

Objectives	Action Step	Timeline and Resources	Success Indicators	Responsibility
2.3 Purchase the technology needed to empower student learning and teacher instruction.	<p>2.3.a Purchase equipment to implement revised technology education curriculum for "Project Lead the Way".</p> <p>2.3.b. Purchase equipment to assure student access to existing assistive technologies for differentiated learning approaches.</p> <p>2.3.c Purchase servers needed to implement use of Blogs, Wikis, RSS feeds, Podcasts, online classes, and simulations to enhance learning opportunities for students.</p> <p>2.3.d All elementary and full size secondary classroom will have LCD projectors.</p> <p>2.3.e Provide funding for expansion of teacher use of Interwrite school pads, LCD projectors, interactive white board and other electronic presentation equipment.</p>	<p>2008-2009</p> <ul style="list-style-type: none"> – Purchase equipment for technology education. – Complete implementation of LCD projector installation K-12. <p>2009-2011 Purchase technology for new online communication and presentation devices.</p>	<p>All teachers have an instructional web presence.</p> <p>TAT survey results shows the Edina students' learning is empowered by the use of technology.</p>	<p>T & L Dept.</p> <p>DMTS</p>

EDINA LONG RANGE TECHNOLOGY PLAN 2008-2012

GOAL 3 Teaching and Learning	To infuse educational technology into student learning activities in all curriculum areas Early Childhood to Grade 12, and to encourage innovative and creative use of technology by staff and students.			
Objectives	Action Step	Timeline and Resources	Success Indicators	Responsibility

<p>3.1 Ensure that all staff will be technology and information literate and competent.</p>	<p>3.1.a Provide assistance to teaching staff to infuse information literacy and inquiry skills into curriculum.</p> <p>3.1.b Media Specialists, Technology Integration Specialists and Teaching and Learning Specialists support and expect staff to use technology.</p> <p>3.1.c Develop criteria and process to assess teacher's proficiency in integrating technology into the classroom.</p> <p>3.1.d Develop criteria for determining how student proficiency in use of technology will be evaluated.</p> <p>3.1.e Establish a district process for staff to take internal sabbaticals for curriculum work inclusive of embedding technology and presents ideas on ways to infuse technology into the curriculum.</p> <p>3.1.f Provide training for teachers on use of Blogs, Wikis and RSS feeds and Podcasts for curriculum implementation.</p>	<p>2008-2009</p> <ul style="list-style-type: none"> – Require and expect all teachers to use technology enhancements for their curriculum. – Media specialists and classroom teachers reinforce ethics and information literacy skills. – Provide access to data warehouse of assessment databases anywhere, anytime. <p>2008-2012</p> <ul style="list-style-type: none"> – Implement information literacy standards and expectations across the curriculum. – Training for staff on new technologies – ISTE's NETS standards for students are infused in Information Literacy curriculum. <p>2009-2011</p> <ul style="list-style-type: none"> – Include technology enhanced ideas for staff in a communitywide shared space. – Implement electronic portal K-12 to support individual learning plans. – Students demonstrate tech standards by end of 8th grade. 	<p>Teachers and students use current technologies such as podcasts, blogs and Wikis to expand access to curriculum resources.</p> <p>All teachers demonstrate a proficiency in integrating technology into the curriculum.</p> <p>NETS standards are achieved by 8th grade.</p>	<p>TISs Media Specialists T & L Dept. Principals TLSS</p>
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EDINA LONG RANGE TECHNOLOGY PLAN 2008-2012

Objectives	Action Step	Timeline and Resources	Success Indicators	Responsibility
3.2 Data is easily and readily available to provide assessment of individual student learning outcomes, to inform instruction and to support accountability.	<p>3.2.a Design and maintain electronic portals on every student for teacher access.</p> <p>3.2.b Make district's data warehouse of assessment available anytime, anyplace, with appropriate levels of security for staff and parents.</p> <p>3.2.c Establish parent portal for student progress reports.</p> <p>3.2.d Standardize and coordinate student information systems and management databases.</p>	<p>2008-2009</p> <ul style="list-style-type: none"> – Pilot TIES parent portal – All staff using iCue have access to information in district's data warehouse of assessment databases. <p>2009-2010</p> <ul style="list-style-type: none"> – TIES evaluated for use to replace Edline at the secondary level . – Work with TIES to create a teacher and administrative portal to data warehouse. 	<p>All Edina teachers and parents have current access to a web portal of performance and assessment information.</p> <p>80% of parents access the web portal.</p> <p>All teachers use district's web portal to enhance instruction.</p>	DMTS Research and Evaluation Teaching and Learning.
3.3 All administrators, teachers and learners at every instructional level acquire the necessary information literacy skills for living in the 21 st Century.	<p>3.3.a Train staff and students in the responsible use of technology.</p> <p>3.3.b Review and revise district-wide acceptable use policy, e-mail, copyright and Web policy.</p> <p>3.3.c Provide students with on-line ethics and Internet etiquette, safety and security training.</p> <p>3.3.d Train staff and students on information literacy skills.</p>	<p>2007-2008</p> <ul style="list-style-type: none"> – Provide students on-line ethics and safety training as part of Information Literacy skills. – Train staff on effective, safe, secure and ethical use of the Internet. <p>2008-2009 Revise AUP, e-mail, copyright and Web policies.</p>	<p>All students receive training on Web etiquette, ethics and copyright, Internet safety and security.</p> <p>Teachers, administrators, and staff will model web etiquette, ethics, copyright, Internet safety and security.</p>	Media specialists, administrators, classroom teachers, and staff.

EDINA LONG RANGE TECHNOLOGY PLAN 2008-2012

Objectives	Action Step	Timeline and Resources	Success Indicators	Responsibility
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<p>3.4 All Edina learners have anywhere, anytime access to lifelong educational opportunities.</p>	<p>3.4.a Encourage and facilitate individual learning through technology applications.</p> <p>3.4.b Embed current technologies into the curriculum to accommodate individual learning needs. Expand learning beyond classroom walls.</p> <p>3.4.c Co-sponsor with Univ. of M and MNSCU to provide online courses for staff, students and community.</p> <p>3.4.d Continue to work with the ISD 287 and Northern Star Online, cooperating to expand course offerings and student participation.</p> <p>3.4.e Seek out collaborative distance learning resources with colleges, universities, school consortiums and E-12 school districts.</p> <p>3.4.f Students take at least one online course or one online managed course prior to graduation.</p> <p>3.4.g Train Edina teachers to use online course management systems.</p> <p>3.4.h Facilitate dialogue between Education MN/Edina and district to facilitate online instruction by Edina staff.</p>	<p>2008-2009 Review need for Community Education to offer graduate courses online for University credit.</p> <p>2008-2010</p> <ul style="list-style-type: none"> – Co-sponsor with Univ. of MN and MNSCU to provide online courses for staff and students. – Deliver community education and university classes to homes and business – Online textbooks and online folders available for students to submit their homework on line <p>2008-2012 Seek out distance learning opportunities to expand learning for students and staff.</p> <p>2009-2012</p> <ul style="list-style-type: none"> – Basic tech skills taught online and with Streaming video – Textbooks are online, only classroom sets available 	<p>Online courses are available in all 6-12 core curriculum areas which are designed and taught by Edina teachers.</p> <p>Students are informed at registration/orientation of the online opportunities.</p>	<p>DMTS</p> <p>T & L</p> <p>Counselors</p>
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EDINA LONG RANGE TECHNOLOGY PLAN 2008-2012

Objectives	Action Step	Timeline and Resources	Success Indicators	Responsibility
3.5 Support curriculum writing teams and building staff in selection of hardware and software to ensure infusion of technology into the curriculum.	<p>3.5.a Provide adequate staff support for implementation and operation of computer network to access resources.</p> <p>3.5.b Support curriculum review teams in selecting hardware and software needed to implement curriculum.</p> <p>3.5.c Complete needs assessment by each SIT/BATT on technology resources necessary to embed the 21st Century Skills into the curriculum.</p> <p>3.5.d Create user groups for teachers using current and future technologies: Interwrite pads, podcasting and video editing.</p>	<p>2008-2009</p> <ul style="list-style-type: none"> – Revise curriculum website – User groups created to support district technology initiatives. <p>2008-2011</p> <ul style="list-style-type: none"> – Select software and hardware that aligns with the curriculum revision cycle and reflects the trend to more technology-based and online resources. – Continue review of online textbooks. 	<p>All curriculum writing teams identify technology competency for their course of study in relationship to MN. Dept. of Education requirements and assist in selection of software and hardware.</p> <p>All curriculum writing teams consult with designated special services staff regarding interventions and adaptations using assistive and supportive technology.</p>	<p>Media Specialists TIS SIT/BATT Improvement Committee TLSS</p>

EDINA LONG RANGE TECHNOLOGY PLAN 2008-2012

GOAL 4 Staff Development	To develop and support staff development programs that creates a community of learners that competently and effectively use and manage technology resources.			
Objectives	Action Step	Timeline and Resources	Success Indicators	Responsibility

<p>4.1 Ensure a high level of competency in the effective use of technology by staff.</p>	<p>4.1.a Establish standards and assessment measures for educators in the area of technology and information literacy using the NETS standards.</p> <p>4.1.b Incorporate technology competencies for staff into hiring procedure and criteria for tenure.</p> <p>4.1.c Increase technology training programs for clerical, substitute teachers and support staff to upgrade their technology skills and enhance their effectiveness.</p> <p>4.1.d Promote and share existing models of research-based technology practices.</p> <p>4.1.e Develop, in cooperation with TISs and TLSs, individual teacher technology training plans based on the teacher's use of technology and in alignment with the teacher performance appraisal process (PGT's).</p> <p>4.1.f Monitor and review the implementation of teacher's technology PGT's, by Principal or designee.</p> <p>4.1.g Monitor and review implementation of administrator's technology PGT's</p> <p>4.1.h Create an incentive program for staff which encourages and rewards innovative use of technology.</p> <p>4.1.i Train and educate staff in the implementation of specific assistive technologies related to student performance and achievement.</p>	<p>2007-2012</p> <ul style="list-style-type: none"> – Evaluate technology as part of the TPA process and professional growth plan for all staff. – Require all staff to have a technology PGT – TIS's monitor use of technology in the classroom – Maximize use of inservice days for technology training for all staff. – TIS's work with teachers to infuse technology into the classroom. <p>2008-2010</p> <ul style="list-style-type: none"> – Inservice all staff on ISTE NETS skills. – Technology enhanced units are available in every subject area at each grade level. – Monitor use of NETS skills by students, teachers and administrators – Evaluation of technology application skills is part of hiring process. 	<p>Aggregated on-line technology skills assessment record for staff on file and used for planning district and site-based training.</p> <p>Use electronic portfolio for staff as part of the TPA process and professional growth plan.</p> <p>Majority of staff (80%) have achieved the NETS standards for teachers.</p> <p>New district staff demonstrate technology proficiency.</p>	<p>SIT/BATT</p> <p>Improvement Committee</p> <p>DMTS</p> <p>T & L</p> <p>TIS</p>
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EDINA LONG RANGE TECHNOLOGY PLAN 2008-2012

Objectives	Action Step	Timeline and Resources	Success Indicators	Responsibility
4.2 Provide on-going staff development to promote infusion of technology into curriculum using district resources, web available resources, TIES, outside vendors and community education classes.	<p>4.2.a Assist staff in infusing current technology into the curriculum, through the cooperation of Media Specialists, TIS, and TLS.</p> <p>4.2.b Use building-level and district-level inservice programs to meet staff technology training needs.</p> <p>4.2.c Provide two, week-long computer camps each summer for staff to learn new hardware, software and write technology enhanced curriculum units.</p> <p>4.2.d Increase online professional development options for all staff.</p> <p>4.2.e Select and/or develop streaming video inservice programs to provide “just in time” staff training for hardware and software.</p> <p>4.2.f Provide readily available resources on information literacy skill development to staff and students.</p>	<p>2008-2010</p> <ul style="list-style-type: none"> – Offer online staff development classes, including grad courses. – Revise summer tech camp format as needed – Provide technology enhanced curriculum units for every subject at every grade level on the curriculum web page. <p>2008-2012</p> <ul style="list-style-type: none"> – Make streaming video collection of technology training units available for staff at school or home. – TISs utilize a “Just-in-Time “ training model for staff – Minimum of two day of technology training required for each staff member. – Provide TISs, TOSAs and media specialists training to enhance technology infusion into the classroom. 	<p>Establish shared distance learning options for staff technology training.</p> <p>Collection of staff training videos provide “just in time” support for Edina staff.</p>	<p>DMTS SIT/BATT ITSs TLSs T & L Media Specialists</p>

EDINA LONG RANGE TECHNOLOGY PLAN 2008-2012

Objectives	Action Step	Timeline and Resources	Success Indicators	Responsibility
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<p>4.3 Provide ongoing staff development training to enhance administrative technology skills.</p>	<p>4.3.a Administrator's assist staff in infusing technology into the curriculum, through the cooperation of Media Specialists, TIS, and TLS.</p> <p>4.3.b Building administrator's use building-level and district-level inservice programs to meet staff technology training needs of their staff.</p> <p>4.3.c Provide monthly technology workshops for administrators to stay current with technology resources in the district.</p> <p>4.3.d Increase online professional development options for all administrative staff.</p>	<p>2008-2009</p> <ul style="list-style-type: none"> – Develop check list to determine administrator tech skills using NETS standards. – Administrators take self-evaluation to determine their level of tech skills at end of year. – Technology workshops become part of leadership meetings. <p>2008-2010</p> <ul style="list-style-type: none"> – Administrators create one technology PGT for themselves; includes NETS standard – Series of technology workshops provided for administrators. <p>2009-2012</p> <ul style="list-style-type: none"> – Review inservice participation by administrative staff . – Review administrator's use of software management tools 	<p>All Edina administrators will have successfully achieved the ISTE's NETS standards for administrators</p>	<p>DMTS Teach and LEARN TISs</p>
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EDINA LONG RANGE TECHNOLOGY PLAN 2008-2011

GOAL 5 Information Access	To enable parents, students, staff and administrators to access, process, manage and communicate information in meaningful ways.			
Objectives	Action Step	Timeline and Resources	Success Indicators	Responsibility
<p>5.1 Use online technologies to enhance communication between all Edina Public School stakeholders.</p>	<p>5.1.a Provide ongoing training and support for building level and district online technologies.</p> <p>5.1.b Provide access to online technologies and telecommunication resources to enhance communication with parents and students for every teacher and administrator.</p> <p>5.1.c Ensure that all students have access to a computer and Internet access from home.</p> <p>5.1.d Every teacher and administrator will have Web presence.</p> <p>5.1.e Every grade-level team or subject department will have an online newsletter.</p> <p>5.1.f Continue to work with 3rd party vendors such as Edline, and TIES expand the use of district and school web pages.</p> <p>5.1.g Conduct annual review of effectiveness and efficiency of information access initiatives.</p> <p>5.1.h Online parent payment system for supplies, field trips, lunch, etc.</p> <p>5.1.i Blogs, Wikis, RSS feeds and Podcasts will be used to expand access to curriculum resources beyond the school day and classroom.</p>	<p>2007-2008</p> <ul style="list-style-type: none"> Every teacher and administrator will have a Web presence. Redesign district web site. <p>2008-2010</p> <ul style="list-style-type: none"> Web is major information/ instructional tool for staff and students. Review use of Edline and make changes as necessary Review use of TIES for the elementary parent portal <p>2009-2011</p> <ul style="list-style-type: none"> Online parent payment system Elementary parent portal in place. 	<p>District and school web pages become primary mode of providing information to parents and the community.</p> <p>All Edina students have a computer and Internet access from home.</p>	<p>DMTS Webmasters Teachers Testing and Assessment Department</p>

EDINA LONG RANGE TECHNOLOGY PLAN 2008-2011

Objectives	Action Step	Timeline and Resources	Success Indicators	Responsibility
5.2 Assure staff and students timely access to appropriate management and curriculum related on-line databases and software.	<p>5.2.a Provide on-going training for support staff and administration on new TIES and other 3rd party data management software modules.</p> <p>5.2.b Monitor and maintain computer network management, proxy and spam servers, security software, filtering software, and support software programs.</p> <p>5.2.c Upgrade automated library system and select on-line resources for enhancing curriculum implementation.</p> <p>5.2.d Learners will have access to all of the electronic libraries of Minnesota through shared resources, systems and data.</p> <p>5.2.e Wireless access to Health Services information for nurses.</p> <p>5.2.f Review and revise Edina's policies for Internet safety and security (CIPA).</p>	<p>2008-2009</p> <ul style="list-style-type: none"> – Implement new TIES data management software using COGNOS. – Revise policies for Internet safety and security. <p>2009-2010</p> <ul style="list-style-type: none"> – Upgrade library automation system. – Wireless access to Health Services information – Review use of periodicals and Magazines by students for research. <p>2008-2012</p> <ul style="list-style-type: none"> – Administrative staff use TIES Adminview and Quickview to monitor NCLB progress of students. – All teachers use iCue to monitor student performance. 	<p>Staff maximize use of district and TIES databases to meet student learning needs.</p> <p>Students have access to online resources they need to be successful in a safe and secure Internet environment.</p> <p>Revised Board policies to ensure safety and security.</p>	<p>DMTS Media</p> <p>Specialists TLSS TAT TISs</p>

EDINA LONG RANGE TECHNOLOGY PLAN 2008-2011

Objectives	Action Step	Timeline and Resources	Success Indicators	Responsibility
5.3 Provide Edina community access to district technology resources.	<p>5.3.a Work with Community Education to maximize use of district's technology resources in district facilities.</p> <p>5.3.b Assess the needs within the district for students and community use of media center and computer lab resources.</p> <p>5.3.c Online course registration from home for middle and high school students</p> <p>5.3.d Explore with City of Edina using WiFi technology to connect home and school.</p>	<p>2008-2009</p> <ul style="list-style-type: none"> – Implement web-based CRP catalog and registration. – Middle school students register from home. – Assess community use of media center and computer labs. <p>2009-2011</p> <ul style="list-style-type: none"> – City and school partner to use metro area WiFi network to provide online access to resources and courses. – High school students register for classes from home. 	<p>Community Education delivers programs into Edina homes over the interactive video network/Internet 2.</p> <p>Middle and high school students register for classes from home.</p>	DMTS ECC Media Specialists

EDINA LONG RANGE TECHNOLOGY PLAN 2008-2011

GOAL 6 Funding		To obtain local, state, federal, and private funding resources for technology initiatives.		
Objectives	Action Step	Timeline and Resources	Success Indicators	Responsibility
6.1 Plan, monitor and establish guidelines for obtaining and distributing funding for technology.	<p>6.1.a Continue to oversee and monitor technology expenditures from tech levy by Technology Bond Oversight Committee.</p> <p>6.1.b Rewrite guidelines for funding building level technology plans that are aligned with the school Improvement Planning Process.</p> <p>6.1.c Develop plan for funding "Go Wireless" plan.</p>	<p>2008-2012 TBOC continues to oversee budget for Tech Plan.</p> <p>2008-2009 Develop plan for funding one-to-one computer program, "Go Wireless".</p>	Funds for new initiatives are obtained.	TBOC TAT Business Dept. DMTS Ed. Fund

<p>6.2 Seek out, identify and obtain appropriate grant and funding resources.</p>	<p>6.2.a Work with TIES, ISD 287 and other school district consortiums to seek funding resources.</p> <p>6.2.b Continue to develop distance learning courses for NSO.</p> <p>6.2.c Continue to apply for e-rate funding to offset telecommunication costs.</p> <p>6.2.d Title II-D funding for technology training</p> <p>6.2.e Seek E²T² funding for staff development.</p> <p>6.2.f Fund the “Go Wireless” program through the Edina Education Fund and other resources so that every 6th -12th grader has their own laptop or digital assistant.</p>	<p>2008-2009</p> <ul style="list-style-type: none"> – New courses are developed for NSO, which provide revenue for consortium. – Seek out E²T² grant funding. <p>2009-2010 Obtain funding for the “Go Wireless” initiative, 10-12th grade</p> <p>2010-2011 Obtain funding for the “Go Wireless” initiative, middle schools, 6-9th grade.</p>	<p>“Go Wireless” 1-to-1 computer initiative is implemented.</p>	<p>DMTS TBOC Ed. Fund Business Office</p>
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Timeline of Milestones

(2008-2012)

Goal 1 Infrastructure	School Year				
	2007-2008 (Year 1)	2008-2009 (Year 2)	2009-2010 (Year 3)	2010-2011 (Year 4)	2011-2012 (Year 5)
<i>LAN</i>	Complete wireless hubs in secondary schools.	Complete placement of wireless in elementary schools.	<ul style="list-style-type: none"> – 1GB to each computer lab, 100 MB to desktop – Converged network completed. 		
<i>WAN</i>	Increase capacity of district IP video distribution system.	Complete video distribution system upgrade.	Work with City of Edina on WiFi network.		
<i>Security Camera</i>	<ul style="list-style-type: none"> – Placement of security camera in schools – Phase 1 completed. 	Expand security camera coverage.		Evaluate effectiveness of security system.	
<i>Technology Standards</i>	Review industry's technology standards.		SIF and SCORM standards are implemented.		
<i>Remote Access</i>	Provide staff access to files and servers from home.	Provide students access to files from home.			
<i>Technology Support</i>	Review need for extended DMTS support hours.	Select new repair monitoring software.	Middle and high school students provide tech support for schools.		

<i>File Management & Archival System</i>	Begin converting district office files to electronic archival and management system.		All district office and guidance records are electronic.	80% of in-district paper records are eliminated.	
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Goal 2 Tech Resources	School Year				
	2007-2008 (Year 1)	2008-2009 (Year 2)	2009-2010 (Year 3)	2010-2011 (Year 4)	2011-2012 (Year 5)
<i>Curriculum Technology Support</i>		<ul style="list-style-type: none"> – Purchase technology for new Tech Ed. program. – Complete K-1 LCD installations. 		Evaluate new online and electronic communication and presentation devices.	
<i>Staff Computers</i>	Begin replacing teacher computers with laptops.	Finish replacing all staff computers.	All secondary staff have a laptop computer.		
<i>Classroom Computers</i>	Pilot 1-to-1 computer program.	Determine process for implementing 1-to-1 program.	<ul style="list-style-type: none"> – Begin implementation of 1-to-1 for grades 9-12. – Complete computer upgrade for elementary school classrooms. 	Begin implementation of 1-to-1 for 6-8 grade students.	Increase number of mobile labs at elementary schools.

<i>Media Center Computers</i>		Replace remaining computer labs at each secondary school .			
<i>Assistive Technology</i>	Begin monitoring Assistive Tech Plan implementation.		Revised Assistive Technology Plan		

Goal 3 Curriculum	School Year				
	2007-2008 (Year 1)	2008-2009 (Year 2)	2009-2010 (Year 3)	2010-2011 (Year 4)	2011-2012 (Year 5)
<i>Student/ Teacher Administrator Technology Competencies</i>	<ul style="list-style-type: none"> Media staff and teachers reinforce information literacy skills. NETS for teachers and administrators - part of PGTs. Train staff on 	<ul style="list-style-type: none"> NETS standards for students infused in Information Literacy curriculum. Revise AUP, e-mail, copyright and web policy. 	Technology literacy skills are evaluated as part of state standards.		

	<p>effective, safe, secure and ethical use of Internet.</p> <ul style="list-style-type: none"> – Provide students with online ethics and safety training. 				
<i>Software Selection</i>	<p>Begin selection of software to support curriculum on revision cycle.</p>	<ul style="list-style-type: none"> – Revise curriculum website. – User groups to support technology initiatives. 		<ul style="list-style-type: none"> – Continue to review online textbooks. – Review use of curriculum website. 	
<i>Teaching and Learning Databases and Portals</i>	<p>Teachers have access to assessment result via iCue.</p>	<p>Pilot TIES parent portal.</p>	<ul style="list-style-type: none"> – Implement E-12 electronic portal to support individual learning plans. – Work with TIES to create teacher and administrative portal for assessment. 		
<i>Distance Learning</i>		<p>Review with Community Education the potential to offer online classes.</p>	<ul style="list-style-type: none"> – Online grad course for staff. – Online Community Education classes for Edina. – Begin buying online textbooks 	<p>Basic tech skills taught online with streaming video.</p>	

			instead of textbooks.		
Goal 4 Staff Development	School Year				
	2007-2008 (Year 1)	2008-2009 (Year 2)	2009-2010 (Year 3)	2010-2011 (Year 4)	2011-2012 (Year 5)
<i>Staff Technology Skills</i>	Continued to require all staff have tech PGT	<ul style="list-style-type: none"> – Begin to evaluate use of technology in TPA process. – Evaluation tool in place for hiring new staff. 	Tech enhanced units available in every subject at each grade.	Review process for evaluating staff achievement of NETS.	Majority of staff (80%) have achieved NETS standards.
<i>Staff Training</i>	<ul style="list-style-type: none"> – TISs work with teachers to infuse technology in classroom. – Provide online staff development course. – TISs provide just in time training model for staff and administration. 	<ul style="list-style-type: none"> – Inservice all staff on NETS standards. – Revisit tech camp format. – Streaming video collection of technology training workshops available. – Provide TISs, TLSs and media specialists with additional training to enhance technology infusion into the classroom. 	Provide tech certification program based on district need.		
<i>Administrative Technology Skills</i>	<ul style="list-style-type: none"> – TISs work with principals to monitor tech 	<ul style="list-style-type: none"> – All administrators have a tech PGT. 	<ul style="list-style-type: none"> – Check list of tech skills used for self-examination 	Review administrator's use of software	

	<ul style="list-style-type: none"> PGTs. Regularly scheduled tech training for administrators. 	<ul style="list-style-type: none"> Series of tech workshops are designed specially for administrators. 	<ul style="list-style-type: none"> by administrators. Review administrative tech inservice participation. 	management tools.	
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Goal 5 Information Access	School Year				
	2007-2008 (Year 1)	2008-2009 (Year 2)	2009-2010 (Year 3)	2010-2011 (Year 4)	2011-2012 (Year 5)
<i>Web Presence</i>	Every teacher and administrator will have a web presence.	Middle school students register from home.	High school students register from home.		
<i>Policies</i>	Revise policies for Internet safety and security.	Continue to monitor staff adherence to policies.			
<i>e-mail</i>	Explore use of 3 rd part software for students.				
<i>Internet</i>	<ul style="list-style-type: none"> Review effectiveness of Internet. Redesign district web site. Train staff in 	<ul style="list-style-type: none"> Web becomes major info/instruction tool for staff and students. Review use of 	<ul style="list-style-type: none"> Review use of TIES ParentView for elementary parent portal. City and district partner to use 	<ul style="list-style-type: none"> Elementary parent portal in place. Community Education uses WiFi network to 	

	Adobe writer for creating PDF files. – Implement Urban Planet.	EDline change if necessary.	metro's WiFi network.	deliver programs.	
<i>Integrated Library Sys.</i>		Evaluate library automation system.	Upgrade library automation system.		
<i>Community Education</i>		– Implement CRP web-based catalog. – Assess community use of computer labs.			
<i>System Management Software</i>	Implement new TIES COGNOS management software.	– Teachers use iCue to monitor student performance. – All administrators use TIES AdminView and QuickView to monitor NCLB progress.	– Establish an online parent payment system. – Wireless access to health service information – Review use of magazines by students.		

Goal 6 Funding	School Year				
	2007-2008 (Year 1)	2008-2009 (Year 2)	2009-2010 (Year 3)	2010-2011 (Year 4)	2011-2012 (Year 5)
<i>Funds</i>	TBOC continuing to oversee Tech Levy Budget. Develop plan for	Obtain funding for 1-to-1 "Go Wireless" initiative, grades 9-12.	Obtain funding for 1-to-1 "Go Wireless" initiative, grades 6-8.		

	funding 1-to-1 laptop computer initiative.				
<i>Grants & partnerships</i>	<ul style="list-style-type: none"> – Seek State and Federal funding for district plan. – Continue to work with Edina Education Fund. – Continue to use e-rate funds. 	<ul style="list-style-type: none"> – Seek State and Federal funding for district plan, Title II-D, E²T² – Work with NSO to develop revenue stream for online courses. 			

Implementation Strategy and Funding

IMPLEMENTATION STRATEGY

The primary role of the District Media and Technology Services (DMTS) staff is to provide leadership to the Edina Public Schools in the area of media, technology, and information access. The DMTS staff, under the direction of the Director of District Media and Technology Services, will facilitate the implementation of the Long Range Technology Plan. This will require DMTS staff to:

- 1.) Perform the tasks necessary for day-to-day installation, maintenance, operation and support of technology; and
- 2.) Continue to research emerging technologies and stay abreast of new developments in the application of technology to facilitate the district's evolving needs through the:
 - Identification of instructional goals and objectives affected by technology acquisitions.
 - Identification of hardware and software solutions to meet the instructional goals and objectives of the school, including network planning and design.
 - Creation of bundled hardware and software solutions to meet the instructional goals and objectives of the school, complete with training and maintenance support.
 - Increased awareness of educational applications and infusion of technology into the curriculum through user groups, vendor fairs, and special demonstrations.
 - Collaborative work of the Director of District Media and Technology Services with the Director of Teaching and Learning to ensure the successful accomplishment of the goals and objectives established in this plan.
- 3.) Use the Edina TAT Technology Survey to monitor the implementation of the District Technology Plan, each spring. Results of this survey will be used by the TAT Committee to write their end-of-year report and recommendation for the School Board.

The District's Technology Advisory Team (TAT) is responsible for overseeing the implementation of this Long Range Technology Plan. This committee will serve as an advisory committee to the Director of District Media and Technology Services and the Superintendent's Advisory Council regarding larger issues on the use of technology as a tool for attaining the district's Long Range Technology Plan. The TAT will be comprised of teachers, administrators, representatives from District Media & Technology Services (DMTS), parents, and community. In addition to overseeing the implementation of the district's Long Range Technology Plan, TAT will evaluate the effectiveness of the plan, and make recommendations for modification and changes. Each summer, TAT will provide the Board of Education with their evaluation of the implementation process and any recommendations for changes or modifications. In

addition to monitoring the implementation of the technology plan, the TAT will review and recommend standards for the district's network, hardware, and software to the DMTS, the Superintendent and the Advisory Council.

There are three subcommittees that provide input and recommendations to the district's Technology Advisory Team. These subcommittees consist of representatives of TAT, teachers, administrators, support staff and community members.

The Distance Learning Subcommittee will work with teachers to enhance the learning opportunities for staff and students through on-line and interactive television technology. Representatives of this subcommittee will team with teachers at their respective schools to promote distance learning initiatives.

The Student Information Management Systems Subcommittee (SIMS) is responsible for reviewing, evaluating and recommending changes and modification of software used for the management of student and staff information and records.

The Web Advisory Committee (WAC) is responsible for overseeing the staff and student utilization of the Web. They make recommendations for changes and modifications to the district and school web pages and provide training opportunities for the district's webmasters.

Other committees that provide input into the technology plan include: the Educational Services Council which represents school Site Improvement Teams, curriculum committees and Teaching and Learning Department staff. This committee is responsible for making recommendations to the Director of Teaching and Learning and the Director of District Media and Technology Services as they relate to the staff development and the curriculum goals for this technology plan. Recommendations for software to be approved for district purchase and implementation will be submitted from designated working subcommittees representing specific discipline or special interest groups.

Finally, at the District level, oversight of the expenditures of the Technology Bond and Levy will be done by the district's Technology Budget Oversight Committee (TBOC). This committee makes recommendations for the approval of expenditures from the Technology Bond and Levy to the Superintendent Advisory Council. TBOC consists of the Assistant Superintendent of Educational Services, Assistant Superintendent of Administrative Services, Business Manager, Controller, Director of District Media and Technology Services, one parent representative and one School Board member.

At the school level, the Building Advisory Technology Team (BATT) or the Site Improvement Team (SIT) at each school will be responsible for the implementation and evaluation of each school's building level technology plan. The BATT teams consist of: 1) classroom teachers representing grade levels, subject areas and specialists, 2) building administrator and 3) media specialists and parent representatives. This will include the distribution of funding for the building level technology plans and the yearly review and modification of building level technology plans. BATT/SIT committees will work with the Director of District Media and Technology Services and the Director of Teaching and Learning, to provide staff development opportunities for building staff in the effective utilization of technology as a teaching/learning tool in the

classroom and the effective use of information resources to improve school performance.

Evaluation Plan

The Long Range Technology Plan contains “success indicators” for each of the goals along with a timeline for completing each of the action steps. The district’s Technology Advisory Team (TAT) is responsible for overseeing the implementation and evaluation of the Long Range Technology Plan. In February, of each school year, TAT will send an evaluation report packet to the BATT teams at each school. The information obtained from these self-evaluations will be combined with information collected at the district level. The TAT survey will be used to collect information district-wide from parents, administrators, students, teachers and media specialists on how well technology is being used to enhance the district’s teaching and learning process. The TAT survey results, along with the information collected from the school self-evaluations, will be used to write the end-of-year report and recommendations to the School Board. The recommendations will be included in the revisions of the District’s Long Range Technology Plan.

FUNDING SCHEDULE

National Studies on Technology Costs

The Consortium for School Networking (CoSN) and Gartner, Inc (2003) state that the over-broadening use of personal work stations and the Internet in schools has increased the awareness of support costs and the need for a more formalized support infrastructure. They point out that the increasingly complex technology infrastructure makes the traditionally informal support approach less adequate or practical. This increased use of technology in schools, they point out, demands a higher level of support which is more consistently available for use by staff and students. The CoSN report states that school districts, having installed much of the technologies needed for classroom, administrative and community communications functions, are fast becoming aware of the support problems and need to budget for ongoing support costs.

They recommend that educational institutions and agencies routinely conduct a Total Cost of Ownership (TCO) evaluation. CoSN defines Total Cost of Ownership (TCO) as a comprehensive set of methodologies, models and tools to help organizations better measure and manage their IT investments. In response to this need, Gartner and CoSN, with the support of the North Central Regional Technology in Education Consortium (NCRTE) operated by the North Central Regional Education Laboratory (NCREL) have created a K-12 total cost of Ownership online evaluation tool.

Technology has become an increasingly essential part of the Edina Public School curriculum and operations. As budgets continue to tighten and NCLB regulations require increased accountability of all district programs, it will be important for the Technology Advisory Team to articulate the costs and benefits of existing and planned technology expenditures. TAT will need to be able to show that the district's highly visible investments in technology are meeting educational needs and that these information technology investments are closely monitored and well managed.

The district will begin to use the CoSN TCO evaluation to:

- Better understand the true overall spending on technology
- Manage and assess technology investments, and initiatives in the context of organizational goals
- Assist in developing budgeting guidelines
- Identify and document spending for individual technology services
- Inform stakeholders of the solid analytical management practices being followed when making funding requests

1998 Technology Bond and Levy

On June 9, 1998, the Edina Public School Board of Education approved the issuance and sale of \$12,500,000 in General Obligation technology and facility improvement bonds, series 1998B, to fund the district's Long Range Technology Plan. The allocation

of funds of the five year term of these bonds was directed by the budget adopted as part of the Long Range Technology Plan. The \$12.5 million dollar technology bond was paid out over five years, 1999-2003. \$11.5 million of the technology bond was used to implement the district's Long Range Technology Plan which included a new Staff Development Center at the Edina Community Center. \$1 million of the bond was used to remodel Normandale, Concord and Cornelia classrooms, and to build a new media center at Normandale.

At that time, the district passed a "Down Payment" levy that consisted of two phases. Phase I included levy years 1999-2003 and was for \$500,000 per year. The district used this funding for staff development costs during the first phase of this long range plan.

Phase II of the funding was for a ten (10) year technology levy, from 2004-2013, for \$1 million per year. Phase II of the levy funds are to provide on-going funding for its approved capital plan for technology.

The Technology Budget Oversight Committee (TBOC) was appointed by the Superintendent to oversee the Technology Levy expenditures. TBOC is responsible each February for submitting to the Superintendent and Board of Education the budget proposed for the Technology Levy expenditures for the upcoming school year. Based upon this, the Board approved Technology Budget funding to be allocated to the schools for hardware, software and staff development. District-wide expenditures for the Long Range Technology Plan are reviewed, monitored and approved by the Director of District Media and Technology Services. Purchases requiring School Board approval are sent to TBOC for approval prior to being sent to the School Board as a resolution to purchase.

E-Rate Funding

Under the current terms of the Telecommunications Act of 1996, the Edina Public Schools will be eligible to participate in the Education Rate (E-rate) program in which the FCC will distribute up to \$2.25 billion per year. Based on the number of students eligible for free and reduced lunch, the district has been eligible to obtain a 40% discount for three broad categories of services and products: telecommunication, Internet, and internal connections.

Requests for discounts have been made on an annual basis over the last 10 years. Edina received discount funding for:

- telephone and data circuits between buildings and the outside world
- distance learning networks
- cell phone service.

During the first ten (10) years of the e-rate funding, the Edina Public Schools has received approximately \$550,000 in universal service funds.

Capital Improvement Levy of 2003

In November of 2003 the Edina community approved a Capital Improvement Levy for the district for 85.8 million dollars. This levy will fund two major initiatives of this technology plan. In the levy was 3.2 million dollars for the purchase of a new voice over Internet protocol phone system, a LCD projector mounted in every grade 2-12 classroom and a new video over IP distribution system district-wide.

Other Funding Sources

In addition to e-rate funding, the district receives a limited amount of ESEA II-D funds (\$3,400.) which is used to offset some of the costs of providing all teachers at least one full day of technology staff development.

The district also receives Telecommunication/Internet Access Equity Aid from the State of Minnesota. In the past, the district has received approximately \$50,000 to offset the district cost of Internet access. It is our intent to continue to apply for and use these funds.

Funding Schedule

The following budget projections for the implementation of the Long Range Technology Plan will be reviewed annually by the district's Technology Bond Oversight Committee (TBOC).

TECHNOLOGY LEVY BUDGET

UFARS OBJECT CODE	CATEGORY	ITEM(S) DESCRIPTION	FY2008 BUDGET	FY2009 BUDGET	FY2010 BUDGET	FY2011 BUDGET
100	Salaries and Wages for Technology Staff	12 Computer Paraprofessionals 3 Technology Integration Specialists	\$400,000.	\$412,000.	\$424,360.	\$437,090.
200	Fringe Benefits for Technology Staff	12 Computer Paraprofessionals 3 Technology Integration Specialists	\$100,000.	\$103,000.	\$106,090.	\$109,273.
300	Purchased Technology Services					
	Consultant Services	Network Consultant	\$40,000.	\$40,000.	\$40,000.	\$40,000.
	Communications (telephone, Internet access)					
	Computer and System Services					
	Technology Staff Development					
	Technology Workshops and Conferences	Two half-day workshops of tech training for every staff member.	\$60,000.	\$65,000.	\$70,000.	\$70,000.
	Technology Leases and Rentals					
	Purchased Technology Services (i.e., maintenance)	<ul style="list-style-type: none"> - CISCO Smart Net - Maintenance for fiber optic network 	\$38,000.	\$38,000.	\$38,000.	\$38,000.
400	Supplies and Materials (computer software, etc.	Curriculum support software Management software Information and online resources	\$108,500.	\$200,000.	\$110,000.	\$115,000.

UFARS OBJECT CODE	CATEGORY	ITEM(S) DESCRIPTION	FY2008 BUDGET	FY2009 BUDGET	FY2010 BUDGET	FY2011 BUDGET
	both instructional and non- instructional)					
500	Capital Expenditures (technology equipment)	Network hardware Wireless hubs Desktop and laptop computers Printers and scanners	\$254,000.	\$142,000.	\$211,550.	\$190,637.
800	Other Expenditures (list)					
TOTALS			\$1,000,000.	\$1,000,000.	\$1,000,000.	\$1,000,000.

PROJECTED DISTRICT TECHNOLOGY BUDGET FOR CAPITAL AND OPERATING COSTS

UFARS OBJECT CODE	CATEGORY	ITEM(S) DESCRIPTION	FY2008 BUDGET	FY2009 BUDGET	FY2010 * BUDGET	FY2011 BUDGET
100	Salaries and Wages for Technology Staff	District-wide Tech Staff, Network Manager and Department Administrator	\$650,000	\$669,500	\$756,535	\$779,231
200	Fringe Benefits for Technology Staff	District-wide Tech Staff, Network Manager and Department Administrator	\$143,000	\$147,290	\$166,438	\$171,430
300	Purchased Technology Services					
	Consultant Services					

UFARS OBJECT CODE	CATEGORY	ITEM(S) DESCRIPTION	FY2008 BUDGET	FY2009 BUDGET	FY2010 * BUDGET	FY2011 BUDGET
	Communications (telephone, Internet access)	Telecommunication, Internet, video conference service. (E-rate reimbursement 40%, TARP about \$51,000)	\$126,340	\$131,140	\$131,140	\$139,740
	Computer and System Services	LAN/WAN and TIES	\$334,000	\$345,800	\$356,340	\$372,657
	Technology Staff Development					
	Technology Workshops and Conferences	Workshop for District-wide Tech Staff (most are free from vendors)	\$10,000	\$10,000	\$10,000	\$10,000
	Technology Leases and Rentals					
	Purchased Technology Services (i.e., maintenance)	Contracted repair services	\$48,000	\$40,000	\$40,000	\$40,000
400	Supplies and Materials (computer software, etc. both instructional and non- instructional)	Repair supplies, instruction and computer supplies, magazines, computer software.	\$75,500	\$230,400	\$180,125	\$179,112
500	Capital Expenditures (technology equipment)	<ul style="list-style-type: none"> - Library books - Computer network for voice, video and data - Computers, printers and peripherals 	\$480,000	\$400,000	\$866,000	\$1,584,000
800	Other Expenditures (list)					
		TOTALS	\$1,866,840	\$1,974,130	\$2,506,578	\$3,276,170

* NOTE In the event that the School Board approves a 1-to-1 computer initiative and if the district decides to buy or lease purchase the laptop computers, then the district will need to determine how to fund the 1-to-1 computer program for 6-12th graders. Options include:
1) Technology Bond in 2009-2010, Technology Levy 2009-2010 or a combination of Technology Levy and reallocation of District Capital and Operating budgets. 2) Set up a lease purchase program for parents to purchase laptop computers for their children. District would only need to maintain infrastructure. Burden of cost would be on the parent for hardware, software and maintenance. District costs would be infrastructure, some support and textbooks online.

Conclusion

CONCLUSION

In the year 2012, the success of this plan will not be judged by the number of cables installed; the type of computers used; the amount of staff development training provided; or even the dollars spent. Parents and community will judge this plan by the increased achievement and success of their students in a global information society. If their children develop the 21st Century Skills in the areas of Digital-age Literacy, Inventive Thinking, Effective Communication and High Productivity, then TAT and TBOC will have accomplished the vision of this plan.

Digital-Age Literacy

- Basic, scientific, economic, and technological literacies
- Visual and information literacies
- Multicultural literacy and global awareness

Inventive Thinking

- Adaptability and managing complexity
- Curiosity, creativity, and risk taking
- Higher-order thinking and sound reasoning

Effective Communication

- Teaming, collaboration, and interpersonal skills
- Personal, social, and civic responsibility
- Interactive communication

High Productivity

- Prioritizing, planning, and managing for results
- Effective use of real-world tools
- Ability to produce relevant, high quality products

Eighteen (18) years ago **Power On!** (1988) identified four ingredients as being crucial to the successful maturation of education technology as a tool for supporting effective K – 12 education. Those four ingredients will continue to be used to evaluate the success of E – 12 educational technology for the next 18 years:

- Adequate access to the technology
- Substantial support for educators in learning how to use the technology
- Future development of educational software, and
- Assurances that the research and development work is not only supported but tied closely to the needs and priorities of educators.

The changes recommended in this technology plan will require the hard work and dedication of all stakeholders if the vision for the Edina Public Schools described at the beginning of this long range technology plan is to be obtained.

To accomplish this vision, Edina Public Schools has rewritten the district's Information Literacy Skills curriculum. The Media Specialists will work in cooperation with the Technology Integration Specialists to assist teaching staff in infusing these skills and technologies into the implementation of their curriculum. Media Specialists will assist staff in locating the multimedia resources that they will need to provide students an information rich environment for problem solving and developing critical thinking skills. The Technology Integration Specialists will work with teaching staff to effectively and efficiently use technology as a teaching tool.

Building Principals will play a critical role in assuring that Edina Public School graduates have the Information Literacy Skills they need to be successful in the 21st Century. Principals will work with teachers to implement their Professional Goal Targets for using technology enhanced units with their students.

The district administration will be working with the Edina School Board to gather community stakeholder support and reach consensus on the 21st Century Skills that students in our community will need when they graduate. The administration will need to create a teacher professional development strategy specifically on the 21st Century Skills. The Administration and School Board will collaborate with Community Education and our Youth Development and after school programs to develop a broad-based community approach to addressing 21st Century Skills.

Appendix A

enGauge 21ST Century Skills

Appendix B

National Education Technology Standards (NETS)

**Students
Teachers
Administrators**

NETS for Students

Technology Foundation Standards for All Students

The technology foundation standards for students are divided into six broad categories. Standards within each category are to be introduced, reinforced, and mastered by students. These categories provide a framework for linking performance indicators within the Profiles for Technology Literate Students to the standards. Teachers can use these standards and profiles as guidelines for planning technology-based activities in which students achieve success in learning, communication, and life skills.

Technology Foundation Standards for Students

- 1 Basic operations and concepts
 - Students demonstrate a sound understanding of the nature and operation of technology systems.
 - Students are proficient in the use of technology.
- 2 Social, ethical, and human issues
 - Students understand the ethical, cultural, and societal issues related to technology.
 - Students practice responsible use of technology systems, information, and software.
 - Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.
- 3 Technology productivity tools
 - Students use technology tools to enhance learning, increase productivity, and promote creativity.
 - Students use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other creative works.
- 4 Technology communications tools
 - Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.
 - Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences.
- 5 Technology research tools
 - Students use technology to locate, evaluate, and collect information from a variety of sources.
 - Students use technology tools to process data and report results.
 - Students evaluate and select new information resources and technological innovations based on the appropriateness for specific tasks.
- 6 Technology problem-solving and decision-making tools
 - Students use technology resources for solving problems and making informed decisions.

- Students employ technology in the development of strategies for solving problems in the real world.

NETS for Teachers

Educational Technology Standards and Performance Indicators for All Teachers

Building on the NETS for Students, the ISTE NETS for Teachers (NETS•T), which focus on preservice teacher education, define the fundamental concepts, knowledge, skills, and attitudes for applying technology in educational settings. All candidates seeking certification or endorsements in teacher preparation should meet these educational technology standards. It is the responsibility of faculty across the university and at cooperating schools to provide opportunities for teacher candidates to meet these standards.

The six standards areas with performance indicators listed below are designed to be general enough to be customized to fit state, university, or district guidelines and yet specific enough to define the scope of the topic. Performance indicators for each standard provide specific outcomes to be measured when developing a set of assessment tools. The standards and the performance indicators also provide guidelines for teachers currently in the classroom.

1 TECHNOLOGY OPERATIONS AND CONCEPTS.

Teachers demonstrate a sound understanding of technology operations and concepts.

Teachers:

- demonstrate introductory knowledge, skills, and understanding of concepts related to technology (as described in the ISTE National Education Technology Standards for Students)
- demonstrate continual growth in technology knowledge and skills to stay abreast of current and emerging technologies.

2 PLANNING AND DESIGNING LEARNING ENVIRONMENTS AND EXPERIENCES.

Teachers plan and design effective learning environments and experiences supported by technology. Teachers:

- design developmentally appropriate learning opportunities that apply technology-enhanced instructional strategies to support the diverse needs of learners.
- apply current research on teaching and learning with technology when planning learning environments and experiences.
- identify and locate technology resources and evaluate them for accuracy and suitability.
- plan for the management of technology resources within the context of learning activities.
- plan strategies to manage student learning in a technology-enhanced environment.

3 TEACHING, LEARNING, AND THE CURRICULUM.

Teachers implement curriculum plans that include methods and strategies for applying technology to maximize student learning. Teachers:

- facilitate technology-enhanced experiences that address content standards and student technology standards.

- use technology to support learner-centered strategies that address the diverse needs of students.
- apply technology to develop students' higher order skills and creativity.
- manage student learning activities in a technology-enhanced environment.

4 ASSESSMENT AND EVALUATION.

Teachers apply technology to facilitate a variety of effective assessment and evaluation strategies. Teachers:

- apply technology in assessing student learning of subject matter using a variety of assessment techniques.
- use technology resources to collect and analyze data, interpret results, and communicate findings to improve instructional practice and maximize student learning.
- apply multiple methods of evaluation to determine students' appropriate use of technology resources for learning, communication, and productivity.

5 PRODUCTIVITY AND PROFESSIONAL PRACTICE.

Teachers use technology to enhance their productivity and professional practice. Teachers:

- use technology resources to engage in ongoing professional development and lifelong learning.
- continually evaluate and reflect on professional practice to make informed decisions regarding the use of technology in support of student learning.
- apply technology to increase productivity.
- use technology to communicate and collaborate with peers, parents, and the larger community in order to nurture student learning.

6 SOCIAL, ETHICAL, LEGAL, AND HUMAN ISSUES.

Teachers understand the social, ethical, legal, and human issues surrounding the use of technology in PK-12 schools and apply those principles in practice. Teachers:

- model and teach legal and ethical practice related to technology use.
- apply technology resources to enable and empower learners with diverse backgrounds, characteristics, and abilities.
- identify and use technology resources that affirm diversity
- promote safe and healthy use of technology resources.
- facilitate equitable access to technology resources for all students.

NETS for Administrators

Educational Technology Standards and Performance Indicators for Administrators

I. LEADERSHIP AND VISION.

Educational leaders inspire a shared vision for comprehensive integration of technology and foster an environment and culture conducive to the realization of that vision.

Educational leaders:

- A. facilitate the shared development by all stakeholders of a vision for technology use and widely communicate that vision.

- B. maintain an inclusive and cohesive process to develop, implement, and monitor a dynamic, long-range, and systemic technology plan to achieve the vision.
- C. foster and nurture a culture of responsible risk-taking and advocate policies promoting continuous innovation with technology.
- D. use data in making leadership decisions.
- E. advocate for research-based effective practices in use of technology.
- F. advocate on the state and national levels for policies, programs, and funding opportunities that support implementation of the district technology plan.

II. LEARNING AND TEACHING.

Educational leaders ensure that curricular design, instructional strategies, and learning environments integrate appropriate technologies to maximize learning and teaching.

Educational leaders:

- A. identify, use, evaluate, and promote appropriate technologies to enhance and support instruction and standards-based curriculum leading to high levels of student achievement.
- B. facilitate and support collaborative technology-enriched learning environments conducive to innovation for improved learning.
- C. provide for learner-centered environments that use technology to meet the individual and diverse needs of learners.
- D. facilitate the use of technologies to support and enhance instructional methods that develop higher-level thinking, decision-making, and problem-solving skills.
- E. provide for and ensure that faculty and staff take advantage of quality professional learning opportunities for improved learning and teaching with technology.

III. PRODUCTIVITY AND PROFESSIONAL PRACTICE.

Educational leaders apply technology to enhance their professional practice and to increase their own productivity and that of others. Educational leaders:

- A. model the routine, intentional, and effective use of technology.
- B. employ technology for communication and collaboration among colleagues, staff, parents, students, and the larger community.
- C. create and participate in learning communities that stimulate, nurture, and support faculty and staff in using technology for improved productivity.
- D. engage in sustained, job-related professional learning using technology resources.
- E. maintain awareness of emerging technologies and their potential uses in education.
- F. use technology to advance organizational improvement.

IV. SUPPORT, MANAGEMENT, AND OPERATIONS.

Educational leaders ensure the integration of technology to support productive systems for learning and administration. Educational leaders:

- A. develop, implement, and monitor policies and guidelines to ensure compatibility of technologies.
- B. implement and use integrated technology-based management and operations systems.
- C. allocate financial and human resources to ensure complete and sustained implementation of the technology plan.
- D. integrate strategic plans, technology plans, and other improvement plans and policies to align efforts and leverage resources.

- E. implement procedures to drive continuous improvement of technology systems and to support technology replacement cycles.

V. ASSESSMENT AND EVALUATION.

Educational leaders use technology to plan and implement comprehensive systems of effective assessment and evaluation. Educational leaders:

- A. use multiple methods to assess and evaluate appropriate uses of technology resources for learning, communication, and productivity.
- B. use technology to collect and analyze data, interpret results, and communicate findings to improve instructional practice and student learning.
- C. assess staff knowledge, skills, and performance in using technology and use results to facilitate quality professional development and to inform personnel decisions.
- D. use technology to assess, evaluate, and manage administrative and operational systems.

VI. SOCIAL, LEGAL, AND ETHICAL ISSUES.

Educational leaders understand the social, legal, and ethical issues related to technology and model responsible decision-making related to these issues. Educational leaders:

- A. ensure equity of access to technology resources that enable and empower all learners and educators.
- B. identify, communicate, model, and enforce social, legal, and ethical practices to promote responsible use of technology.
- C. promote and enforce privacy, security, and online safety related to the use of technology.
- D. promote and enforce environmentally safe and healthy practices in the use of technology.
- E. participate in the development of policies that clearly enforce copyright law and assign ownership of intellectual property developed with district resources.

Appendix C

Benefits of Technology

BENEFITS

The district's current technology plan identified several benefits on technology in the Edina schools, which are still relevant. The value of technology must be measured in terms of its positive influence on student learning and achievement and efficiencies in district operations. TAT believes that application of technology in classroom instructional programs and in management will significantly improve the quality and effectiveness of instruction, service to students and the general operations of the school system.

INCREASED STUDENT MOTIVATION AND LEARNING OPPORTUNITIES:

- improve information access skills and encourage life-long learning.
- facilitate higher levels of thinking and application to real-world projects.
- provide for alternative demonstrations of learning by students.
- create "student as researcher" skills for the 21st Century.
- increase student to student and student to teacher communication/interaction.
- provide alternative methods of instruction to better match a variety of learning styles.
- create active learning environments with freedom for inquiry and experimentation.
- provide greater opportunities for individualized instruction.
- increases self-esteem related to successful classroom performance.
- captures curiosity and motivates learning.
- fosters desire for greater performance through immediate feedback.
- provides a familiar environment for the most technologically literate generation.
- actively engaged in learning, learn more.

IMPROVED PROFESSIONAL PERFORMANCE, PRODUCTIVITY, AND MORALE:

- save time on clerical tasks to allow for more quality learning time with students.
- accesses accurate information easily and quickly for better decision-making, instructional planning, and reporting.
- reduces duplication of efforts where information is stored and retrieved by different staff members in different systems.
- collaborates and communicates with colleagues across the district, region, country, and the world.
- communicates more effectively with parents for improved public relations.
- provides means for meeting wide range of individual needs in heterogeneous groups.
- monitors student progress or status with greater ease and accuracy.
- allows for more creativity in developing lesson plans.
- provides varied presentation style for greater student motivation.
- allows teacher to function as facilitator of learning.
- improves quality of instructional output - reporting.
- increases the sense of accomplishment and excitement about learning something new by having learners of all ages demonstrate the concept of "lifelong learning."

- allows teachers to construct individualized educational plans for each of their students based on the student's interests, goals, and learning styles, in order to meet individual learning needs.
- makes it possible for educators to teach at more than one location simultaneously, hence sharing master teacher between schools.
- enables administrators and teachers to reduce time spent on administration and recordkeeping.
- allows staff to search Internet for best deals on hardware, software, and supplies.
- reduces costs to supplies when suppliers can access, respond to and receive orders on-line, their costs decline.
- reduces the time needed to complete business transactions, particular the time from product delivery to payment.
- reduces inventory requirements as demands for goods and services are electronically linked through just-in-time inventory and delivery.

ENHANCED PARENT PARTICIPATION:

- The use of telecommunication technologies and on-line access makes it easier for parents to become partners in their child's education by connecting the school with homes, libraries, office, and other access modes.
- The use of the Edline portal allows parents of secondary students the opportunity to monitor their child's grades, calendar of activities and learning activities.
- The use of the TIES electronic report card and the parent view portal to allow elementary parents the opportunity to monitor their child's accomplishment of the state standards.
- The district's Teaching & Learning website will provide parents with access to curricular resources to assist their students at home.
- Communication with parents regarding the safe use of the Internet is imperative for the safety and security of Internet policies to be effective. Although the school's legal responsibility does not extend to home Internet use, school leaders can help prevent tragic situations by ensuring parents and students are well informed.

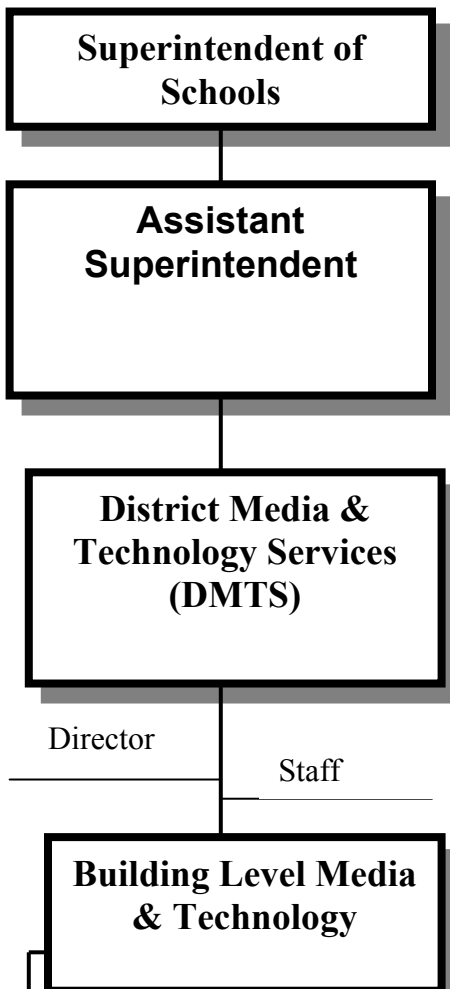
Appendix D

Technology Support Organization Chart

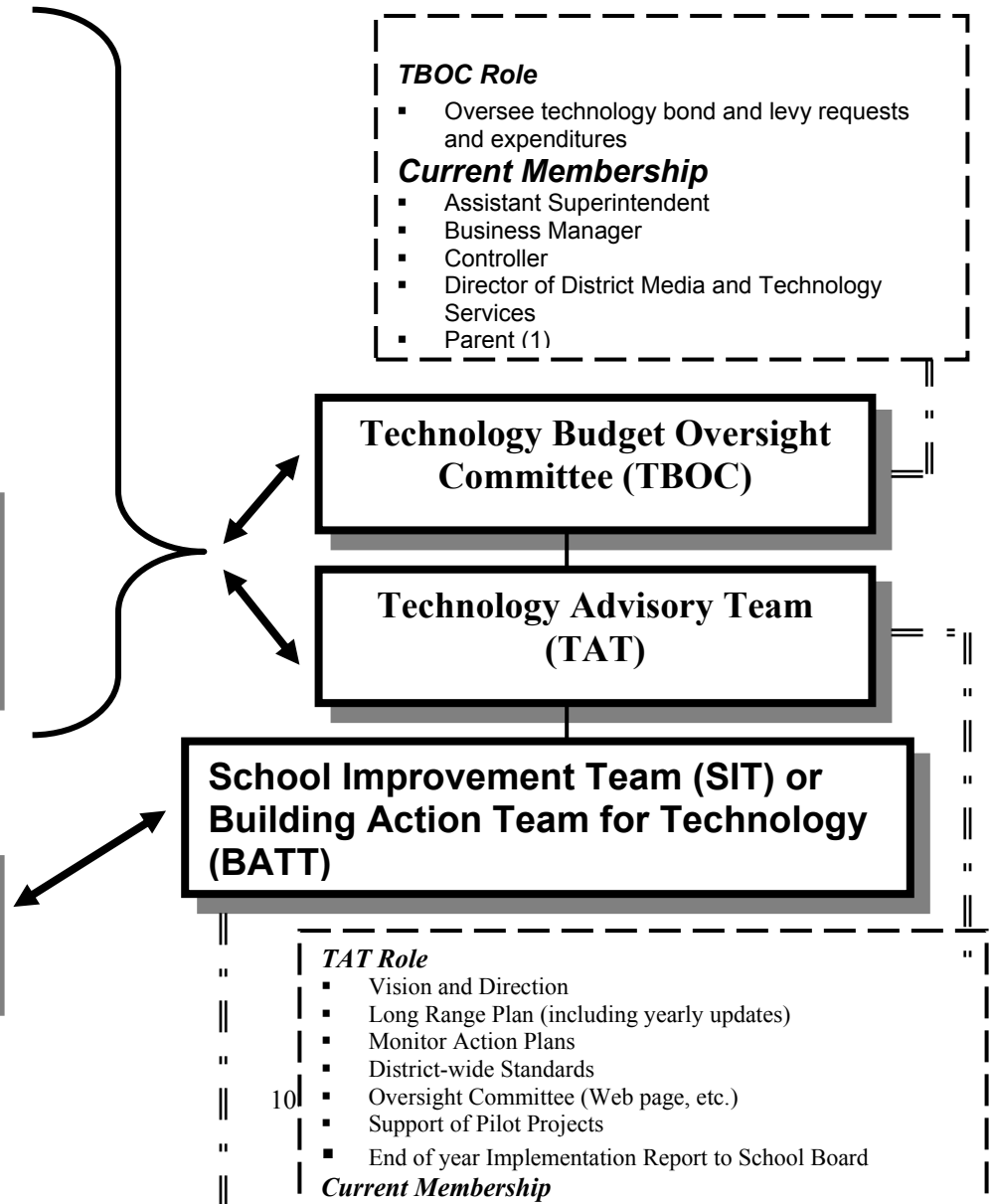
Appendix D

Technology Structure

District Personnel



Advisory Groups



District Media & Technology Services (E.C.C.)..... 848-4800

Fax..... 848-4801

Michael A. Burke, Ph.D., Director	4980
Rebecca Alm, Technology Support Specialist for phone support	4987
Alfred Bliss, Technology Support Specialist for video technologies	4989
Donna Cartwright, Video Distribution Technician.....	4908
Don Clay, Media Technician	4981
Adam Duffy, District Webmaster/Technology Support.....	4993
Wayne Hornicke, Lead Technology Support Specialist for software.....	4985
Scott Johnson, Network Consultant.....	4982/4806
Marilyn Kuppe, Technology Support Specialist.....	4952
Lance Myers, Technology Support Specialist for hardware	4983
Judith Rodgers, Video Distribution Technician	4988
Gwen Ruff, Secretary to Technology Specialists	4040
Alex Simanovich, Technology Support Specialist for hardware	4992
Noami Smith, Help Desk/Technology Support.....	4990
Steve Westerlund, Network Manager	4991
Jane Widmark, Secretary to Director	4800

Student Information Services

Peg Wickland, Supervisor.....	4802
Diane Morris, Secretary	4804
Edan Paar, Secretary.....	4803

SIMS COMMITTEE

FIRST NAME	LAST NAME	LOCATION
Mike	Burke	DMTS
Julie	Hatzung	Countryside
Mike	Holbach	High School
Wayne	Hornicke	DMTS
Craig	Jensen	Valley View
Scott B.	Johnson	DMTS
Nancy	Knutson	High School
Thel	Kocher	Testing & Assessment
Eric	Nelson	High School
Berit	Peterson	DO
Rick	Sansted	South View
Peg	Wickland	DMTS

TEACHING & LEARNING SPECIALISTS

2006-2007

LAST NAME	FIRST NAME	SUBJECT
Johnson	Eileen	Social Studies Language Arts
Laven	Mark	Science/Math
Leland	Diana	Music/Arts
Punchard	Isabelle	World Language

TENCHNOLOGY INTEGRATION SPECIALISTS

2006-2007

LAST NAME	FIRST NAME	AREA
Goldmeyer	Melody	Secondary
Johnson	Scott	Software Management
Kotzer	Barb	Elementary

WEBMASTERS 2006-2007

LAST NAME	FIRST NAME	LOCATION
Amiot	Mary	Com. Ed.
Carlson	Sue	Ed Fund
Curran-Dorsano	Maureen	Normandale
Dahl	Dean	South View
Diette	Julie	DO
Duffy	Adam	District Webmaster
Gaughan	Sherron	Cornelia
Hanson	Felicity	Teaching & Learning
Hanson	Erik	Valley View
Holland	Laurie	Concord
Knutson	Nancy	EHS Counseling Off.
Kotzer	Barb	Special Services
Krause	Jeff	High School
Link	Rachel	Human Resources
Osborn	Cheryl	Communications
Paulin	Donna	Athletics Dept.
Weigand	Jane	Highlands
Wieber	Melissa	Countryside
Willer	Linda	Business Services

DISTANCE LEARNING COMMITTEE

LAST NAME	FIRST NAME	LOCATION
Bliss	Al	DMTS
Burke	Mike	DMTS
Goldmeyer	Melody	DMTS
Kotzer	Barb	DMTS
Pearson	Tracy	Normandale
Sigmund	Claude	South View
Specht	Priscilla	Highlands
Tower	Chris	Concord

WEB ADVISORY COMMITTEE

LAST NAME	FIRST NAME	LOCATION
Burke	Mike	DMTS
Dahl	Dean	South View
Duffy	Adam	DMTS
Goldmeyer	Melody	TIS
Johnson	Scott B.	TIS
Krause	Jeffrey	High School
Kuppe	Marilyn	DMTS
Osborn	Cheryl	Communications
Tueting-Nelson	Laura	Communications
Washam	Ware	Edina Resident
Wieber	Melissa	Countryside

Business Partners

Special thanks to our business partners who had the time and patience to answer questions and assist the district in developing their vision as to the potential for infusing technology into the classrooms and management of the Edina Public Schools.

- Access Communication
- Alpha Video
- AMP Incorporated
- Berbee
- Black Box
- CDWG
- Cisco Systems
- Dascom Communication
- Edline
- Elert and Associates
- Intepro
- Jackson Software
- McAfee Security Systems
- McLeod USA
- Microsoft Corporation
- Midwave
- NCS Data Collection Systems
- Norstan Communications
- Office of Enterprise Technology, State of Minnesota
- Omni Tech
- RAV Technologies
- Reason Computer Corporation
- Synergistic Design Associates
- Total Audio Visual (*formerly Blumberg Communications*)
- Technology Information and Education Services (TIES)
- Verizon

Appendix E

Wide Area Network, Local Area Network and Infrastructure Design

Appendix E

WIDE AREA NETWORK (WAN) AND LOCAL AREA NETWORK (LAN)

INFRASTRUCTURE DESIGN

Starting at the classroom, a switch plugged into the fiber optic cable to each classroom will convert the signal from the fiber to the cat 5 wiring to each student desktop. The initial LAN will provide 10MB to each desktop computer. The infrastructure upgrade, as a result of the capital remodeling bond, has increased the number of telecommunication closets at each school to house the new quality of service to 1GB switches which are connected to each classroom via CAT 6 cabling and provides 100 MB service to each teacher's desk for their voice over IP phone and computer. Each grade 2-12 classroom has an LCD projector mounted on the ceiling and connectivity to a jack box at each teacher's desk, which allows for the teacher to use their projector with a VHS/DVD player or computer. A new video over IP distribution system allows the classroom teacher to access video programs via the data network from video servers and satellite dishes housed at the professional library in the district office.

The district will work on increasing the speed and bandwidth between the Cisco 4500 at each school and the computer lab, by replacing with 1 GB switches in each lab. Over the next two years wireless hubs will be strategically placed throughout each school to provide staff and students access to the computer network.

At the building telecommunications closet, place a switcher to host 100 MB uplink ports and server connections. The switcher will also host 1 Gigabit district-wide area connections.

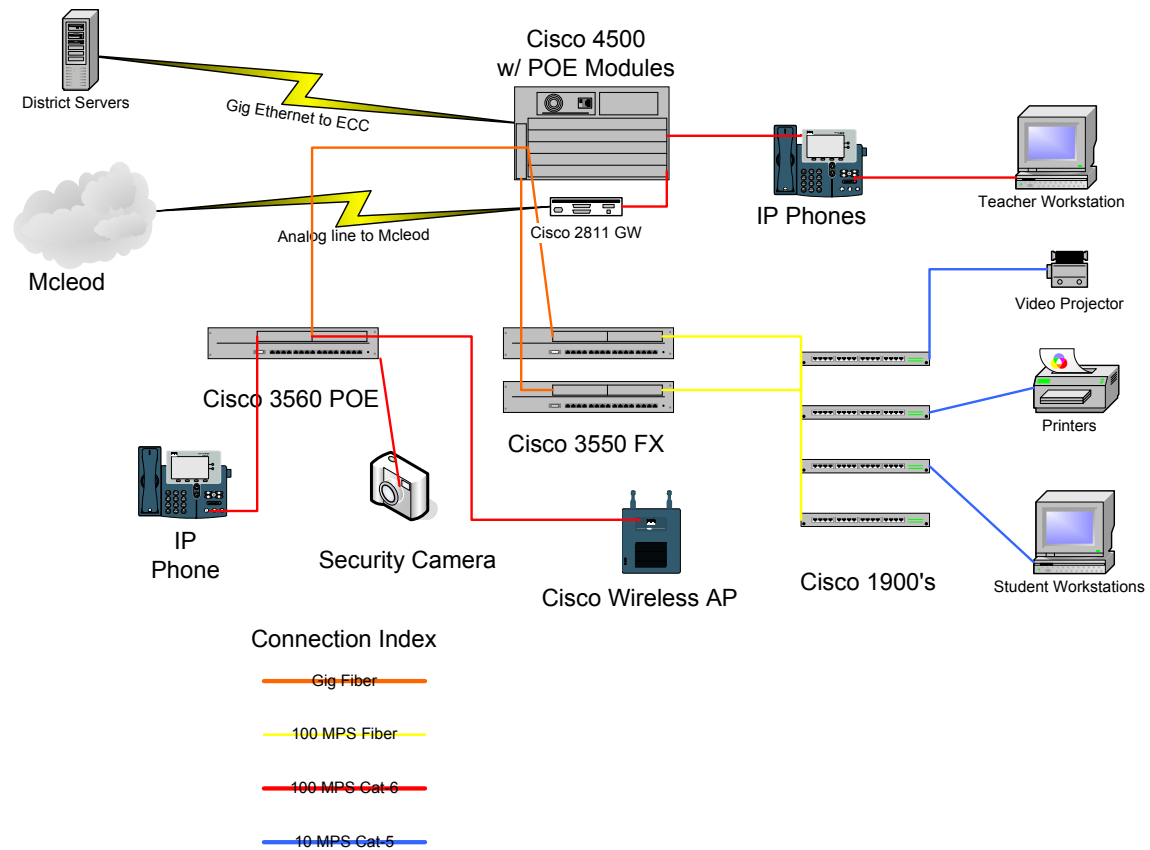
TECHNOLOGY INFRASTRUCTURE, MANAGEMENT AND SUPPORT QUESTIONS FOR SCHOOL DISTRICTS, CHARTER SCHOOLS AND NONPUBLIC SCHOOLS

Please describe plans for technology implementation based on responses to the following questions. Think about these questions in terms of a planning context. For example, where are you now in terms of telecommunications/Internet connectivity and where do you need or want to be at the end of the planning cycle? The table can be expanded as needed to provide complete information.

QUESTION	RESPONSE
What is your telecommunications/Internet connectivity capacity in your school district or school for Internet access and video connectivity?	<ul style="list-style-type: none"> - 3 PRI lines and 42 business lines for telecommunications - Fiber connectivity to 511 building with 20 MB of bandwidth for data and Internet 2 services, with capacity to increase to 100 MB.
Do you have plans to expand this capacity within the next three to four years?	Yes, add one PRI if needed and increase Internet, data and video connectivity bandwidth by 10MB/year.
If you plan to expand telecommunications capacity, what will be your anticipated capacity by the end of this planning period (July 1, 2011)?	<ul style="list-style-type: none"> - 4 PRI lines and 42 business lines - Data, Internet, video bandwidth 60 MB
What is your student to Internet-connected computer ratio? What will this ratio be at the end of the planning cycle?	<ul style="list-style-type: none"> - Currently there is a 4-to-1 student-to-computer ratio - The projected ratio is 3-to-1 at elementary schools and 1-to-1 at secondary schools.
What is your teacher to Internet-connected computer ratio? What will this ratio be at the end of the planning cycle?	1-to-1 staff to computer/Internet
Are the majority of the computers accessible for students located within labs or classrooms?	<ul style="list-style-type: none"> - At elementary level, each classroom has a minimum of 4 computers and each school has at least 1 computer lab. - At middle school level, each classroom has a minimum of 4 computers; each school has 2 computer labs and 2-4 mobile labs. - High school departments have computer labs or mobile labs.
What is the average age of computer equipment used for instruction?	4-6 years – With 1 new lab as of this year in each school.
What is timeline for your computer equipment replacement cycle?	By the end of this planning cycle, all staff and student classroom computers will be replaced. We will have developed a 1-to-1 laptop program.
What is your computer platform? PC-based, Macintosh-based or both?	The district is PC based and uses Microsoft XP Office and operating system.
How many technology support	1 computer paraprofessional at each elementary

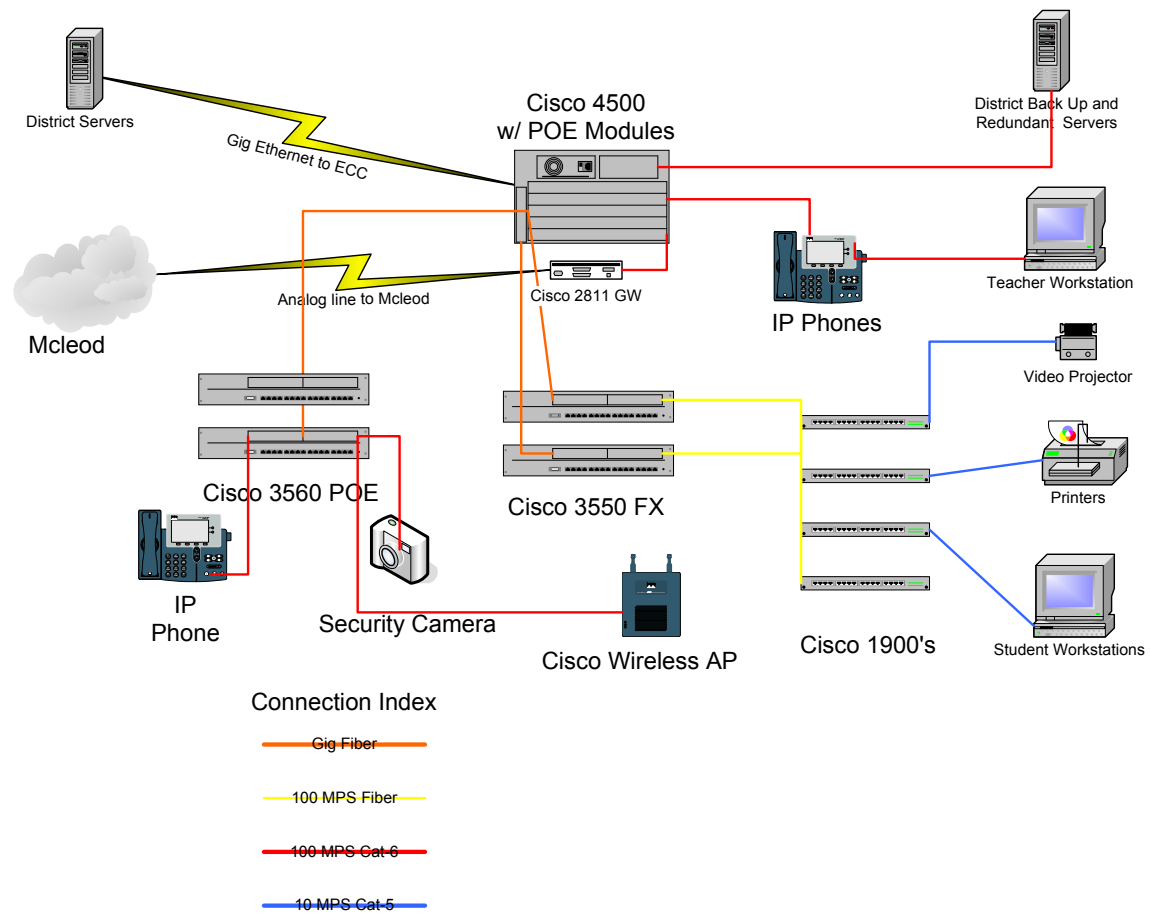
QUESTION	RESPONSE
staff do you have to manage your technology infrastructure and network?	<p>school.</p> <p>2 computer paraprofessionals at each secondary school.</p> <p>8 district level staff to manage district infrastructure and network</p>
Is the technology support staff sufficient to effectively manage your technology infrastructure and network? If not, what staff capacity do you think you need?	<p>The district could use two additional staff; one person to monitor district networking software, the other to assist with software and database development.</p>
Is assistive technology for students with special needs provided and supported in your school district or school?	<p>Yes, the district's TAT committee has an Assistive Technology Plan, which is used to support purchases of hardware and software.</p>
Are technology support staff provided with the necessary training they need, including training associated with assistive technology?	<ul style="list-style-type: none"> - Building technology support staff are provided with training bi-monthly. - District technology staff receive training on a per need basis. Both groups of techs need training with assistive technology training.
How and when are technology support staff provided with training?	<ul style="list-style-type: none"> - Building tech staff get training bi-monthly from district staff or TIES. - District staff get training throughout the year, before implementing new software.
What particular challenges does your school district or school face in providing sufficient access and technology resources to your staff and students?	<p>Time and money. Teachers need the time to take inservice training and to integrate the technology into their curriculum. The sources of funding to maintain and upgrade the district's hardware and software is limited, resulting in long replacement cycles, thereby resulting in student and staff not having access to current technologies for classroom use.</p>

Edina Elementary and Middle Schools



Wednesday, January 17,
2007

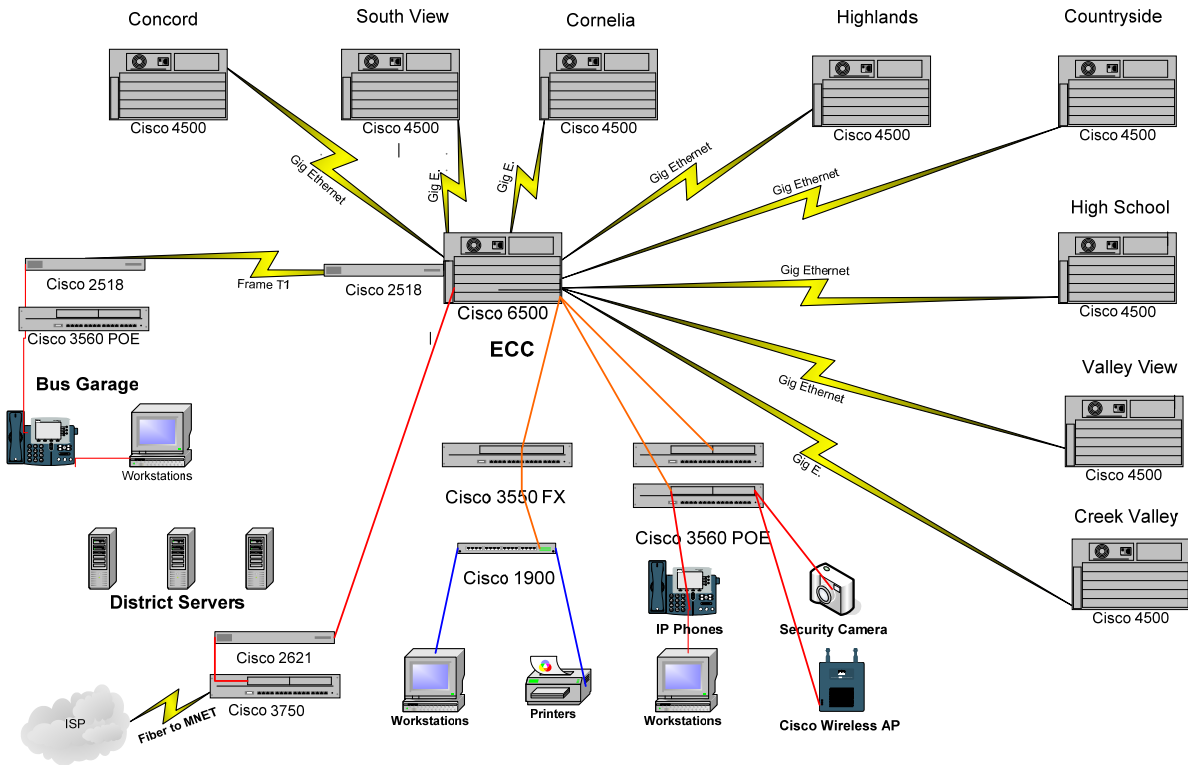
Edina High School



Edina Schools

CURRENT SWITCH NETWORK

Wednesday, January 17,
2007



Appendix F

District Standards for Hardware, Software and Services

Appendix F

DISTRICT STANDARDS FOR HARDWARE, SOFTWARE, AND SERVICES

EQUIPMENT	MODEL(S)
CAMCORDER	JVC Hard Drive Camcorder (GZ-M27/37/77) JVC Share Station DVD Burner CU-VD10US Canon 2R-500 mini DV Camcorder (elementary use-less “professional”)
CD BOOMBOX	Califone Spirit-1776 & 2385AV-02
COMPUTER MONITOR	Staff – ViewSonic VG730 Flat Panel Students – NEC FE772M (Black)
DIGITAL CAMERA	Canon Powershot A530 & A540
DVD/VCR COMBO	Panasonic PV-D4745k & PV-D4745S
LAPTOP	HP
LCD/VIDEO PROJECTOR	Hitachi CP-X445
OVERHEAD PROJECTOR	Buhl 127-HL & 9014EDC 90 Series
PDA/CELL PHONE COMBO	TREO - Windows
PRINTER	HP Laserjets: Classrooms -HP Laserjet 1320 Media Centers – HP P3005dn & Color 4700dn
SCAN CONVERTER	iAVerKey ProDV-Scan converter
SCANNER	ScanJet 5550CXI
SERVER	Reason Netfire 2U Rack-Mount Dual Xeon Server
TV MONITOR	JVC
WORKSTATION	DMTS built: AMD 64 Bit, Dual Core, 3800+ or above, 1gb Ram, 80 GB Hard Drive, DVD Burner

CURRENT INVENTORY OF MULTIMEDIA EQUIPMENT

The computer database of all computer and multimedia equipment owned by the district is housed in the District Media and Technology Services office in room 251 of the Edina Community Center. The computer printout is several hundred pages long. Hence, below is a summary of that inventory by types of equipment:

TYPE OF EQUIPMENT	QUANTITY
Camcorders	64
Cameras	70
CD/radio/cassette recorders or Boom boxes	300
CD-ROM/DVD/Zip drives - external	20
Cellular Phones	151
Computers-desktop	3,300
Computers-laptop/tablet	778
Faxes	25
Handhelds-PDAs, Cell Phone/PDA	70
LCD video/computer projector	367
Monitors	3,406
Overhead Projectors	290
PA system-portable	12
Printers: laser, inkjet	600
Scanners	86
TVs	85
VCR, DVD, VCR/DVD Combos	240
Voice over IP Phones	1,350
Wireless Notepads (InterWrite)	96

Appendix G

Sustaining the Infrastructure

Appendix G

SUSTAINING THE INFRASTRUCTURE

Policies

The Edina Public Schools has implemented policies and procedures to assure staff and students safe and effective use of the computing and networking technology. The following policies and procedures are necessary to ensure that all staff and students abide by the ethics of the Internet and the district; that they abide by all state and national laws and avoid accessing materials and information that are deemed inappropriate in the schools and community.

The Edina Public Schools Acceptable Use Policy, E-mail Policy, World Wide Web Policy and the

Copyright Policy can be found at the following websites:

www.edina.k12.mn.us/support/technology/policies/wwwpolicy
www.edina.k12.mn.us/support/technology/policies/copyright
www.edina.k12.mn.us/support/technoogy/policies/acceptableuse
www.edina.k2.mn.us/support/technology/policies/emailpolicy

Network Support and Management

A robust and sustainable network such as the one we're proposing requires continuous monitoring and maintenance to provide the users with a reliable service. District Media and Technology Services (DMTS) will provide the essential components needed to support the network. DMTS will ensure that the tools of the network are in place and working and that the network elements are functioning well. The nine (9) technology support specialists will respond to voice, video, and data problems from users including; why they cannot get into the network, problems with the server, slow network response time, computer, printer, peripheral and software problems. Support and service should be as close to the end user as possible. Three levels of technology support will be provided. Level one of support will be provided at school level. To accomplish this, District Media and Technology Services will provide training and support for each school's computer paraprofessional. The job responsibilities of the computer paraprofessional will focus on assisting in the computer lab with classes and providing level one technology support at each school. If the computer lab paraprofessionals are unable to solve the technology issues they will contact the Help Desk for support. If the Help Desk cannot help in solving the problem, it will be assigned a repair number and assigned to a technology support specialist. In level two technology support, technology support specialists will go out to schools and work with computer lab paraprofessionals to solve the problem. Those problems that district staff cannot solve will be raised to level three status and resolved with assistance of the district's business partners.

DMTS staff will work with media specialists and technology integration specialists and TIES to provide building staff the software training they identify, to ensure they become effective users of technology.

Network Monitoring

Operation of the network is monitored by the district network manager and two help desk technology support staff working the help desk. The help desk support staff is available from 7:00 AM to 5:00 PM everyday to support building level technology support staff. The network is monitored 24 x 7 to ensure that the network is working, track network traffic, and monitor network failures. To ensure that serious network problems are identified before user call for assistance, the new network has a number of automated tools which will allow remote dial-in of on-call in-house and external technical support specialists to alert them of problems instantaneously. Traffic measurement of packet retransmission, peak and average loads, and traffic across the network link will help to identify congestion as well as potential problems. Thresholds will be used to ascertain when it is time to expand the bandwidth of a link in the network. The district maintains several service agreements with their business partners which allows them to provide remote monitoring and repair.

Security

As the network for the Edina Public Schools expands to include more access points, greater use of the Internet and the development of an Intranet, security will become of even greater importance. The security features on the Windows 2003 server software will assist in establishing access security. The requirements that the district security policy includes are:

- secure printers where student records or personnel information is produced
- separation of administrative communications from student network traffic
- encryption of messages or information between buildings or district and TIES
- limited access (levels of security) to databases or files of information on district servers or at TIES
- use of a proxy server and filtering software to block access to specific Internet addresses which are inappropriate for educational use
- use of spam filter to block unwanted e-mails
- strict enforcement of Acceptable Use Policy, e-mail Policy and Web Access Policy

We also realize that a major component of every security program is education. All users must be trained on methods and procedures to protect their own data; to recognize acceptable use policies; and the ethics of using computing and network equipment. The most common security has to do with people accessing other people's accounts because passwords are not treated with secrecy. Details of the district's security procedures can be found in the District Media and Technology Services Administrative Standards and Security Procedures Manual which is available from the Director of District Media and Technology Services.

Disaster Recovery Procedures

The district has purchased server technology which allows for RAID 5 Backup. A second Web server has been purchased to provide redundancy. The Edina Public Schools disaster recovery procedures are found in the DMTS Administrative Standards and Security Procedures Manual.

The district databases for Census, Human Resources, Payroll, Finance and Student Management are housed at TIES. Back-up records are kept off site. The district has on file a copy of the disaster recovery procedures established by Technology and Information Educational Services (TIES) for their TSIS and TIES financial databases.

Data on the district servers is backed up nightly by Unitrend's Backup Professional system. Over 2 terabytes of hard drive space is available to store daily, weekly and monthly version of server data. Backup tasks for all district servers are managed through a single interface. Single files or entire servers can be restored quickly. A backup vault is located off site to store the most recent backups of all staff servers.

Internet Safety and the Curriculum

The Children's Internet Protection Act (CIPA), addresses offensive Internet content on school and library computers. To comply with CIPA, the district has designed a K-12 program in which students will learn about Internet safety, beginning in kindergarten and going through high school graduation. All staff, not just library media specialists or computer paraprofessionals, should teach Internet safety and take every opportunity to warn of potential dangers and model safe and appropriate internet use.

The district plan will include the following:

- Integration of Internet safety into the K-12 curriculum and instruction.
- Teachers should create age-appropriate activities for students on the Internet and monitor their use of computers at school.
- Educators will maintain open communication with parents about students about academic use of the Internet.
- Train staff and students on how to recognize cyber bullying and what to do about it.
- Students must be taught which types of personal information are safe to share with others and that Internet information is not always accurate or appropriate.
- Define roles and responsibilities for each of the stakeholders with Internet safety.
- Integrate with district's curriculum and selection policy.
- Review and revise regularly, data and network security plans and communicate to staff.
- Establish procedures to address breaches of Internet security and protect student's safety.
- Professional development opportunities for staff. Staff must know and enforce school policies on exchanging and downloading files. Staff must also be alerted continually about potential e-mail dangers and learn how to recognize the problem signs.
- Teachers need to post rules for Internet safety near the classroom computers and periodically review those rules with their students.
- Provide outreach programs to educate parents and the community of Internet safety.

Appendix H

District Demographics, Communication and Public Relations

Appendix H

COMMUNICATION AND PUBLIC RELATIONS

Communicating Progress on Implementing Technology Plan Phases I and II

Schools will use:

- newsletters -- articles from BATT/SIT on site implementation
- website -- weekly updates, web addresses included in all school communications
- articles in local newspaper on how technology makes a difference and progress of plan
- formal evaluation of implementation to TAT committee each spring

District will use:

- Front Page Back Page articles from DMTS each issue to describe implementation progress
- Web page monthly update
- Staff eNewsletter every two weeks:
 - Comments from the Superintendent
 - Events and updates on initiatives and committee work
 - Links to department or program newsletters
- Data area on the intranet to link to more information from administrators, program leaders and committee chairs
- Web page for district projects
- articles in local newspaper about implementation
- T.A.T. provides Board of Education with report on progress in implementation of technology and summary of expenditures in June of each year
- Voicemail to staff from Superintendent on special items

In addition:

- T.A.T. will meet monthly
 - responsible for monitoring implementation of action plan and expenditures
 - recommendations for revision of action plan and expenditures
- T.A.T. assists in overseeing implementation of building level technology plans and use of funding
- TBOC oversees the expenditure of the Technology Bond and Levy Budgets
- BATT committees report progress and expenditures twice each school year in November and May



District

Home District Schools Teach & Learn Parents Community Ed News Support Services
Site

Fast Facts

General facts about the district including:

- [Overview](#)
- [Academics and Recognition](#)
- [Special Programs](#)
- [Values and Service](#)
- [Athletics and Extracurricular](#)
- [Community Education](#)
- [Creating the Future Annual District Strategies](#)

Overview

District

There are approximately 7500 students, K-12, served by 1153 teachers and support staff in six elementary schools (Grades K-5), two middle schools (Grades 6-9) and one senior high school (Grades 10-12). Community Education Services provides learning opportunities for all ages. The district serves Edina, a residential community of approximately 47,425 people adjacent to the City of Minneapolis.

School Choices

Elementary

Parents have three elementary (K-5) program choices:

- Neighborhood Program which serves 70% of students
- [Continuous Progress](#) in which teachers work with students more than one year in multiage groups
- [French Immersion](#) which students enter in kindergarten

Secondary

There are two middle schools (6-9) serving students based on geographical boundaries. There is one high school.

Small Class Sizes

Edina Public Schools is committed to keeping class sizes as small as possible while retaining the educational support needed to ensure quality learning opportunities. Class size guidelines are: Kindergarten 18-21, grades one through three 21-24, grades four and five 24-27, grades six through nine 25-28, grades ten through twelve 29-32.

Academics and Recognition

Academic Achievements

Edina High School has had National Merit semifinalists and finalists each year the National Merit Foundation has been in existence. In 2006, there were 10 semifinalists (all became finalists) and 20 commended scholars in a class of 543.

In 2005-06, forty-eight percent of Edina seniors took the SAT with a mean score of 593 on critical reading and 602 on mathematics.

In 2005-06, on the ALT test, seventy to ninety-two percent of second through seventh grade students scored above the national average in reading and math. The average Edina fifth grader scored at the 92nd national percentile rank in math and the 82nd national percentile in reading.

In 2005-06, 742 Edina students took a total of 1,865 Advanced Placement examinations in 27 subject areas, making it one of the largest AP programs in the Midwest. Eighty percent of the Edina scores were in the 3-5 range, making them eligible for advanced placement and/or credit at the college level.

Graduates

Ninety-seven percent of seniors go to college. Eighty-six percent finish in five years. A recent survey conducted 10 years after graduation showed that 45% of Edina graduates completed graduate school degrees or were pursuing graduate degrees.

Special Recognition

Edina school system has been consistently selected as one of the top in the country.

- All three secondary schools, Valley View, South View, and Edina High, as well as Creek Valley, Cornelia, Normandale, and Highlands elementary schools, have received the National School of Excellence award from the U.S. Department of Education.
- In 2005, [SchoolMatch](#) service rated Edina as a Parents' Choice winner for schools that most match what parents want in a school district. Edina has won this award every year since its inception in 1992.
- Edina High school once again listed as one of the "Best High Schools" in the Nation" by *Newsweek* Magazine 2006.
- National Sleep Foundation 2000 [Healthy Sleep Capitol of the Nation Award](#) to the district
- Edina KIDS Club, Edina Schools' quality, affordable care and enrichment program, was the first school-aged childcare program in the state to earn accreditation from the National Academy of Early Childhood Programs. It is available at each school site.

- The board of education/superintendent team named top three in the nation by the New England School Development Council
- 1992-2006 Superintendent, Kenneth Dragseth, Ph.D., was named National Superintendent of the Year for 2003-2004.
- Edina High School named as one of the Best High School Athletic Programs in the nation by *Sports Illustrated* (May 16,2005)
- Edina Public Schools received the Award for Excellence in Education from Senator Mark Dayton for going above and beyond expectations for educating students. (January 2006)
- Top State ratings in school finance received for five years.

Arts

A full range of art learning opportunities are offered in both courses and cocurricular activities. Theater productions, and fine arts events and courses are offered each year. There is a rich tradition of excellence in the arts:

- High school literary magazine, *Images*, has received the All-American Award for 36 years running from National Scholastic Press Association and the Gold Crown for 2001 from Columbia Scholastic Press Association.
- Student newspaper, *Zephyrus*, received the Gold Medallist Certificate for 1999 through 2002 from Columbia Scholastic Press Association; 1st Place for 2000 from National Scholastic Press Association; and 1st Place with Special Merit for 1999 & 2001 from American Scholastic Press Association.
- Student yearbook; *Windigo*, received 1st Class from National Scholastic Press Association and American Scholastic Press Association, a Silver Medal from CSPA, and 1st Place from the Minnesota Journalism Education Association.
- High school concert choir has received outstanding performance honors at state competitions for 22 consecutive years
- The concert band has received superior ratings at Minnesota State High School League contests for 52 consecutive years and the orchestra has received superior ratings for 24 years.
- Edina High School recognized as a GRAMMY Foundation Signature School for outstanding commitment to music education in 2004-05

World Languages

Eighty percent of students take at least one year of a world language. Spanish is offered at all elementary schools beginning in grade two. French immersion continues through middle school. Eight languages are offered in middle school and high school: Chinese, French, German, Japanese, Latin, Russian, Spanish and American Sign Language.

Technology

The incorporation of high tech resources into the teaching program is a major focus of the current teaching and learning goals. Computers are located in all classrooms and each school has computer labs. The new telecommunications network provides staff and students with improved communications, access to visual learning resources and computer-based learning tools.

Special Programs

Special Education

Ten and a half percent of students are served each year by [Special Education](#) in the areas of learning disabilities, mental handicaps, physical impairment, hearing and vision impairments, emotional/behavior disorders, communication disorders and autism spectrum disorders.

English as a Second Language

The [English as a Second Language Program](#) is growing and serves students speaking 39 languages.

Gifted Education

[Gifted Education](#) provides a comprehensive K-12 program for gifted students, offering support in classroom activities and the additional support needed to keep high achievers and extraordinary students challenged.

Values and Service

2006 marked the 17th anniversary of the district's Ethical Values Program which focuses on six values: Integrity, Courage, Commitment, Compassion, Appreciation of Diversity and Responsibility. The values were selected by the community and are incorporated into the learning program. All schools do service projects helping people locally and globally. High school students are expected to complete at least 10 hours of community service by graduation.

Athletics and Extracurricular

Athletes

[Edina athletes](#) have won a total of 122 state championships, making Edina Schools number one among the 500 members of the Minnesota State High School League. There are 12 sports for boys and 17 for girls offered at the high school level, with 10 sports offered in the middle schools.

Extracurricular

Edina Public Schools offers 41 nonathletic, extracurricular activities in fine arts, academics and social service. Ninety percent of high school students participate in one or more extracurricular activities, winning local, state and national recognition for their work and commitment.

Community Education

The goal of Edina Community Education Services is to support lifelong learning to meet the needs of the community. It has seven program areas:

- [Adult Enrichment](#) provides a wide variety of quality day, evening and weekend classes.
- [Learning Exchange](#) offers a wide variety of customized classes for adults with disabilities.
- [Youth Development/Youth Service](#) actively engages youth and adult members of the community to work together in a variety of projects.
- [Edina KIDS Club](#) offers childcare and enrichment programs before and after school, and during the summer for K-8 students.
- ["K Plus" \(All Day Kindergarten\)](#) provides a full-day experience aligned with current classroom curriculum for kindergarten.
- [Edina Family Center](#) offers Early Childhood Family Education (ECFE), parenting classes, resources and preschool classes.
- [Curricular Resources and Programs](#) provides curriculum enrichment programs upon teacher request.
- [Edina Resource Center](#) connects people to community services and resources.
- [Business/Education Partnership](#) promotes the exchange of resources between business and education for mutual benefit.

Creating the Future Annual District Strategies

Our Mission:

The mission of the Edina Public Schools, working in partnership with the family and the community, is to educate individuals to be responsible, lifelong learners who possess the skills, knowledge, creativity, sense of self-worth, and ethical values necessary to thrive in a rapidly changing, culturally diverse, global society.

Creating the Future, has four areas of focus:

- We will work in partnership with the community to increase student assets.
- We will work in partnership with the community to welcome and support diversity.
- We will develop and implement programs and practices that will address gender differences in student performance and other measures of success.
- We will maximize the achievement of all students by developing a clearly articulated curriculum and appropriate research based instructional strategies implemented by highly qualified staff.

Appendix I

Glossary of Terms

Appendix I

GLOSSARY

TERMS	DEFINITIONS
Asynch	Pertaining to a lack of any time relationship among the occurrences of events, such as signals or operations.
ATM	Asynchronous Transfer Mode: A transfer mode in which the information is organized into cells. It is asynchronous in the sense that the recurrence of cells containing information from an individual user is not necessarily periodic.
Blogs	Personal Websites consisting of regularly updated entries.
CATV	Cable Television.
CD-ROM	Compact Disk-Read Only Memory: A variant of the familiar audio compact disk. A medium to store extremely large amounts of data, including text, graphics, animation, sound, and video, for use by a computer.
CD-ROM tower	A computer-attached device that contains a number of CD-ROM drives and allows simultaneous access to multiple CD-ROMs.
Client (Client/Server)	In a client/server network, computers acting as servers provide information or capabilities (files, printer access, CD-ROM access) to client machines over the network. Typically, the computer on someone's desk would be the client of a centrally located server machine.
Coaxial Cable	An electronic transmission medium consisting of a center conductor and an outer, concentric conductor. Often used for CATV application.
Computer Virus	A program that hides itself (usually on a floppy disk) and copies itself from computer system to computer system. Frequently causes damage to the information on the computer.
Controller	A unit required by a computer to operate a peripheral device.
CPU	Central Processing Unit of a computer. Often refers to the computer chip around which the entire computer is built.
Curriculum Integration	The use of computers and computer software to advance instructional objectives in the classroom.
Data	A formalized representation of information that can be processed by a computer, consisting of numbers, letters, and symbols to describe an object, idea, fact, or concept.
Database	An organized set of information that can be searched, manipulated, and reported in a variety of ways by using the computer. It is like a large file cabinet that can be quickly rearranged on command.
Desktop Publishing	The use of computer software to integrate text, charts, and

	pictures to design, display, and print high-quality documents comparable to typeset print.
Digital Data	Information and data represented by discrete values such as zeros and ones.

TERMS	DEFINITIONS
Digitizer	A device that changes smooth, continuous (analog) information into digital values of zeros and ones.
Disk	A round, flat magnetic medium used to store information.
Distance Learning	Providing educational programs from one site to another using transmission devices such as modems, phone lines, and satellites.
Electronic Mail (e-mail)	The process of sending, receiving, storing, and forwarding messages in digital form over telecommunications facilities from one computer to another.
Ethernet	A particular local area network technology with a transmission speed of 10 Mbps (mega bits per second) or 100 Mbps
Facsimile (FAX)	A system for the transmission of images. The image is scanned at the transmitter, reconstructed at the receiving station, and duplicated on some form of paper.
Fast Ethernet	New enhancement of Ethernet that runs speeds of 100 Mbps, known also as 100 base T.
Fiber Optic Cable	See optical fiber.
File Server	A high capacity computer used to store and distribute files and programs to other computers, and to control other networked devices such as printers.
FTP	File Transfer Protocol: A software application used to transfer files from one computer to another over TCP/IP-based networks.
Gateway	A device that connects two systems or two networks, especially if the two systems or networks use different protocols.
GUI	Graphical User Interface
Hardware	The physical components that make up a computer system.
Hub	A multipurpose network device that lies at the center of a star topology network.
ILS	Integrated Learning System
Internet	An internet is any collection of networks interconnected by a common protocol.
Internetworking	Communications among devices across multiple networks.
Integrated Library System	Libraries with computerized cataloging, indexing, circulation systems, and on-line databases with links to other library facilities.
IP	Internet Protocol is the heart of TCP/IP. It defines the datagram, the basic unit of information transmitted over a TCP/IP network. It defines the addressing used by TCP/IP and routes packets.
ISDN	Integrated Services Digital Network is a digital telephone service standard. The ISDN Basic Rate Interface (BRI) service provides two 64K bps digital channels that can be used to transmit voice or data, or both simultaneously.

Jpeg	The Joint Photographic Experts Group standard for encoding and compressing still graphic images.
LAN	Local Area Network. A communication network that provides interconnection of a variety of devices (e.g., computers, printers, modems, terminals) within a small area.
Laser-disk	A storage medium written and read by laser.

TERMS	DEFINITIONS
LCD Projection Panel	Liquid Crystal Display projection panel: A device that can be put on a standard overhead projector to display computer generated information on a screen for viewing by an audience.
Mhz	MegaHertz
Modem	Modulator/Demodulator. Transforms a digital bit stream (e.g., generated by a computer) into an analog signal at the sender (modulator), transmits the analog signal over some transmission medium (e.g., phone line), and converts the signal back to digital form at the receiver (demodulator).
Mpeg	The Moving Pictures Experts Group standard for encoding and compressing moving video images.
Multimedia	A computing environment that incorporates different media - text, graphics, sound, animation, and video - in an engaging and intuitive format. It includes a computer, peripherals (e.g., videodisc player, CD-ROM drive), and software (e.g., HyperCard) that work together to enhance learning or to increase the impact of presentation.
Network	Links multiple computers and other computing resources together, whether they are in the same room, in multiple rooms or buildings, across town, across the country, or across the globe.
Network Operating System	Software that runs on the client server and network server in a computer network that allows the servers to exchange information.
Open Protocol	A protocol that can be developed and used without any licensing fee. The protocol specifications are available to everyone.
Operating System	Software that controls execution of programs and the basic operations of a computer system.
Optical Fiber	A thin filament of glass or other transparent material through which a signal-encoded light beam may be transmitted.
OSI	Open Systems Interconnect was an international effort to develop an open standard for data communications.
Password	A string of characters used to authenticate a user to a computer system. The user must type in these characters after identifying himself or herself before gaining access to files.
Peripheral Device	A device attached to a computer to expand its capabilities (e.g., printer, modem, CD-ROM drive, laser-disc player).
Podcasts	A method of publishing files to the Internet, allowing users to subscribe to a feed and receive new files automatically by subscription, used largely for audio files.
PPP	A particular communication protocol for connecting a stand-alone computer to a TCP/IP-based network (such as the Internet) via modems and telephone lines.

Protocol	A set of rules governing the exchange of data between two entities. A formal statement of the procedures that are adopted to ensure communication between two or more functions within the same layer of a hierarchy of functions.
RAM	Random Access Memory. Part of the computer memory available to programs and data that the computer reads from the disk. The contents of the RAM are lost when the computer is turned off.
ROM	Read Only Memory. Information in ROM can be read but not changed. It is placed in the computer when the computer is manufactured and is not erased when the computer is turned off.
Router	A device used to link two or more networks.

TERMS	DEFINITIONS
RSS	Real simple syndication (RSS) is a relatively new and easy way to distribute content via the Internet. For email marketers, it is a way to distribute messages while avoiding spam filters. Typical applications include email newsletters, blogs or even Web sites.
Scanner	A device used to translate printed material into computer data so that a document can be viewed and manipulated via a computer.
SCORM	Sharable Content Object Reference Model, or SCORM – SCORM is a collection of standards and specifications adapted from multiple sources to allow for the interoperability, accessibility, and reusability of digital learning materials: everything from a video clip illustrating how cells divide to a Power Point explication of a sonnet.
SIF	School Interoperability Framework – SIF specifications are a technical blueprint for school software, designed for technology providers and educators. It manages data within the school environment and enables diverse applications to interact and share data in real time.
SIT	Site Improvement Team (SIT) is a school level committee that provides leadership for building in technology and staff development issues.
SLIP	Serial Line Internal Protocol. A particular communication protocol for connecting a stand-alone computer to a TCP/IP-based network (such as the Internet) via modems and telephone lines.
SNMP	Simple Network Management Protocol. A particular networking protocol for management and administration of a computer network.
Social Networking Site	An online place where a user can create a profile and build a personal network that connects a person to other users.
Star Wiring	A method of laying out the transmission medium that is installed for a local area network. All cables are concentrated in a wiring closet, with a dedicated cable run from the closet to each device on the LAN.
T-1	A particular type of point-to-point digital transmission line provided by local telephone companies. Its transmission rate is approximately 1.5 mega bits per second.
TCP/IP	Transmission Control Protocol/Internal Protocol. A particular (and a very popular) suite of network protocols for interconnecting similar and dissimilar computers and networks of all sizes. It is the heart of the global Internet.
Telecommunications	The transfer of data and information from one place to another via communications lines.
Telnet	A member of the TCP/IP family of protocols that lets you connect your computer to another computer over TCP/IP-capable computer networks.

TIS	Technology Integration Specialist (TIS) provides inservice training for teaching and support staff on how to maximize the use of technology for their use.
TLS	Teaching and Learning Specialists (TLS) work with curriculum committees and teachers to ensure the appropriate use of technology in their area of expertise.
Video disk	A large disk onto which live action video, still video, and sound have been recorded using laser technology.
WAN	Wide Area Network. A communication network that provides interconnection of a variety of devices (e.g., computers, printers, modems, terminals, LANs) within a large area and/or between multiple buildings.
Wikis	A web application that allows users to add content, as on an Internet forum, but also allows anyone to edit the content. Wiki also refers to the collaborative software used to create such a website.
WWW	The World Wide Web is a network of networked information systems for accessing information.

Appendix J

Bibliography

Appendix J

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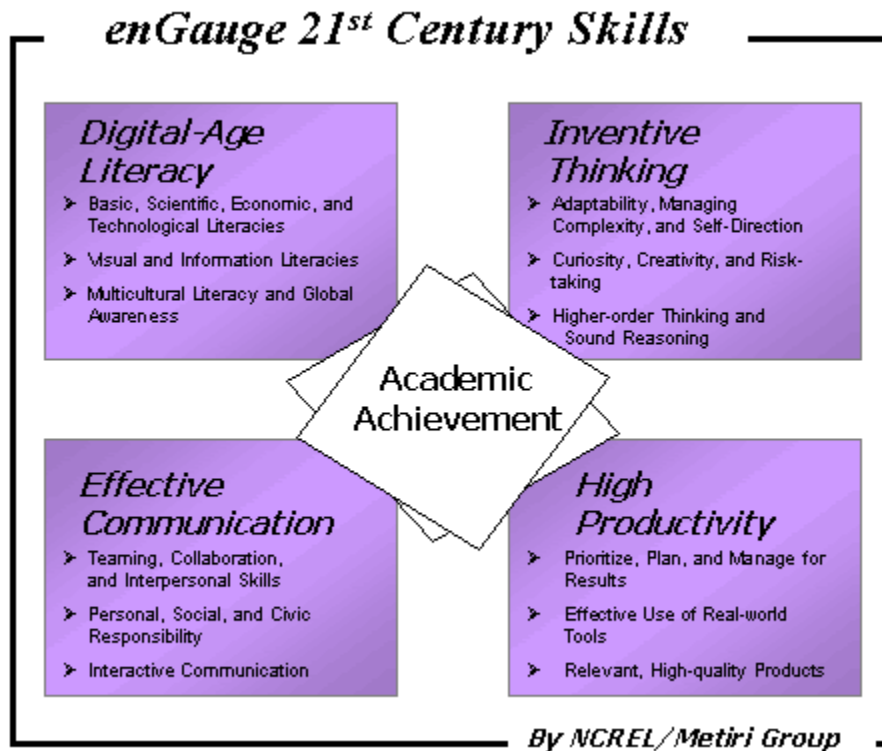
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What We Know

The 21st Century Skills



Digital Age Literacy-Today's Basics

- **Basic, Scientific, and Technological Literacies**
As society changes, the skills that citizens need to negotiate the complexities of life also change. In the early 1900s, a person who had acquired simple reading, writing, and calculating skills was considered literate. In recent years, we've come to expect that all students will be able to read critically, write persuasively, think and reason logically, and solve complex problems.
- **Visual and Information Literacy**
The graphic user interface of the World Wide Web, advances such as digital cameras, graphics packages, and streaming video, and the convergence of voice, video, and data into a common digital format have increased the use of visual imagery dramatically. Students need good visualization skills to be able to decipher, interpret, detect patterns, and communicate using this imagery. In addition, they need to be able to access information efficiently, evaluate it critically, and use it accurately.
- **Cultural Literacy and Global Awareness**
The world is rapidly becoming wired, and the resulting globalization of commerce has increased the need for cultural literacy. In such a global economy, the ability to know, understand, and appreciate other cultural formations - including those established by technological society, such as virtual realities - is key to a competitive edge.

Inventive Thinking-Intellectual Capital

- **Adaptability/Managing Complexity**
The interconnectedness of today's world brings with it unprecedented complexity. Interaction in such an environment requires individuals able to plan, design and manage in new ways. Such individuals can handle contingencies, anticipate changes, and understand interdependencies among systems.
- **Curiosity, Creativity and Risk-Taking**
Researchers now understand how the very structure of the brain can be changed through intellectual pursuits-"there is a corresponding relationship between the amount of experience in a complex environment and the amount of structural change in the brain-in other words, learning organizes and reorganizes the brain." Curiosity fuels lifelong learning just as it contributes to quality of life and to the intellectual capital of a country. Equally important is risk taking-without which there would be few quantum leaps in discoveries, inventions, and learning.
- **Higher Order Thinking and Sound Reasoning**
For decades, research has called for higher order thinking and sound reasoning in P-12 curricula. Thinking skills have been defined as the ability to think creatively, make decisions, solve problems, and see things in the mind's eye, whereas sound reasoning enables students to plan, design, execute, and evaluate solutions. These processes are often carried out more effectively using technology.

Interactive Communication-Social and Personal Skills

- **Teaming and Collaboration**
The rapid pace of today's society has caused a downward shift in the level of decision-making. At the same time, the complexity of the 21st century requires a high degree of specialization by decision-makers-hence the need for the teaming of specialists to accomplish tasks efficiently, effectively and in a timely manner. Information technology such as email, faxes, voice mail, audio and videoconferencing, chat rooms, shared documents, and virtual workspaces, can facilitate and enhance collaboration.
- **Personal and Social Responsibility**
Emerging technologies often present ethical dilemmas. As complexity increases, society needs new values to guide the application of science and technology and to manage the use of powerful new tools at the personal, community, and governmental levels. It is important for students to grasp this responsibility and contribute as informed citizens.
- **Interactive Communication**
In this digital age, it is imperative that students understand how to communicate using technology. This includes asynchronous and synchronous communication, such as person-to-person email interactions, listservs, group interactions in virtual learning spaces, chat rooms, MOOs, MUDs, interactive videoconferencing, phone/audio interactions, and interactions through simulations and models. These technologies add new dimensions to communication that must be mastered, including etiquette unique to particular environments, scheduling over time zones, and cultural/language issues.

Quality, State-of-the-Art Results

- **Prioritizing, Planning, and Managing for Results**
High levels of complexity require careful planning, managing, and anticipating contingencies. This means more than simply concentrating on reaching the main goals of a project or keeping an eye on project outcomes; it requires the flexibility, creativity, and the ability to anticipate unexpected outcomes as well.
- **Effective Use of Real-World Tools**
Doug Henton describes three types of knowledge important to today's economy: Know-what, Know-how, and Know-who. Choosing appropriate tools for a task and applying them to real-world situations in ways that add significant value results in increased collaboration, promotion of creativity, and the development of useful, high quality products.
- **High Quality Results with Real-World Application**
Researchers are finding learning benefits for students who build authentic products with tools-whether they be sand castles, computer programs, documents, graphs, LEGO constructions, or musical compositions. Such experiences provide students with deep insights into whatever domain of knowledge and whatever tools they use.